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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

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_____)
In the Matter of)
)
PACIFIC GAS AND ELECTRIC COMPANY)
)
(Diablo Canyon Power Plant)
Units 1 and 2))
_____)

Docket Nos. 50-275 0 L
50-323 0 L

PACIFIC GAS AND ELECTRIC COMPANY'S
RESPONSE TO APPEAL
BOARD ORDER OF SEPTEMBER 10, 1984

The Appeal Board, by its order of September 10, 1984, has requested the parties to this proceeding to provide the Board with their "views" as to how the Board should proceed with respect to Diablo Canyon Unit 2. Pacific Gas and Electric Company, for the reasons set forth infra, submits that sufficient evidence exists in the record for the Board to issue its decision as to the adequacy of the design of Unit 2 of the Diablo Canyon Nuclear Power Plant upon the issuance of the Staff's SSER on that subject. The parties to this action have had ample opportunity to raise any issues or contentions regarding Unit 2. Of the thirty-nine issues litigated in the so called design quality assurance (DQA) hearings of October-November 1983, the vast majority related to both units and three were unique to Unit 2 (Contentions 1(e), 2(d), and 5).^{1/}

1. Of the thirty-nine issues in the DQA hearings, the joint intervenors and Governor both failed to file proposed findings on sixteen issues, including 2(d), and, in addition, the joint intervenors failed to file proposed findings on one issue the Governor abandoned in his proposed findings, leaving twenty-two issues for decision by the Board. In the matter of Pacific Gas and Electric Company (Diablo Canyon Nuclear Power Plant, Units 1 and 2) ALAB-763, _____ NRC _____, slip op. at 9-10, March 20, 1984.

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As shown in the following memorandum of Points and Authorities and the affidavits attached hereto,^{2/} the existing record is sufficient to resolve the issues litigated in the DQA hearings as they relate to Unit 2.

MEMORANDUM OF POINTS AND AUTHORITIES

I

FACTS

Structures

Diablo Canyon Units 1 and 2 are nearly identical, mirror-image plants. The Class I structures are either common, essentially identical, or basically the same but with variation enough to require separate analysis. Those structures that are common are the intake structure and the auxiliary building including the fuel handling building. All of the common structures were reviewed by the IDVP. The structures that are essentially identical (the same analysis applies to both) are the containment shells, containment concrete interiors, and Class I outdoor storage tanks and buried diesel fuel oil tanks. The criteria, methodology, and analyses of the identical structures were reviewed by the IDVP. The structures that were basically the same, but analyzed separately, were the annulus structures and the two halves of the turbine building. The criteria and methodology for these similar structures were the same for both units, and the IDVP reviewed the criteria, methodology, and analyses for the annulus of Unit 1 and the Unit 1 side of the turbine building. (White affidavit, Attachment 1.)

2. References in the memorandum of Points and Authorities are either to the record or to the attached affidavits which reference the record.

Systems and Components

The mechanical, electrical, HVAC, and instrumentation and control systems in Unit 2 are the same as the systems used in Unit 1. The basic system functions, criteria, design, and methodologies are identical between units. (Connell-Vahlstrom affidavit, Attachment 2.) The components are either common to both units or essentially identical for Units 1 and 2. Anderson et al., ff. Tr. D-224, at 28.

Piping and Supports

The piping arrangement is essentially the same for both units. However, because of the mirror image arrangement of the two units, separate analyses and support designs were performed for each unit. These analyses and designs were based on the same criteria, methodology, design process and procedures in Unit 2 as were used for Unit 1. (Shipley affidavit, Attachment 3.)

The IDVP reviewed and found acceptable the criteria, methodology, design process and procedures used for piping in Unit 1. (ITRs 59, 60, and 61 in evidence as Exhibits 149, 150, and 151.)

Quality Assurance and As-Builts

The as-built process for Units 1 and 2 at Diablo Canyon was the same. (Moore-Cranston affidavit, Attachment 4.) The Quality Assurance program at Diablo Canyon was, for all material purposes, the same for Unit 2 as for Unit 1. (Jacobson-de Uriarte affidavit, Attachment 5.)

Internal Technical Program (ITP)

To check the applicability of the Unit 1 IDVP design verification to Unit 2, the Diablo Canyon Project (DCP) established an internal procedure. (Anderson et al., ff. Tr. D-224, at 29; Moore, Tr. D-385.) Under that procedure, any Unit 1 finding that was found not applicable to Unit 2 was documented and the basis for this decision provided. If the finding applied to both Units 1 and 2, a determination was made as to whether the Unit 1 resolution also applied. In cases where the Unit 1 resolution applied to the Unit 2 design, procedures were in place to ensure that the resolution was implemented for Unit 2. If a finding deemed applicable to Unit 2 involved physical modifications to the plant, the appropriate design change document was issued to PGandE's General Construction Department for implementation on Unit 2. (Anderson et al., ff. Tr. D-224, at 29-30; Cranston, Tr. D-384-85.) If the substance of the ITP or IDVP review item was not identical for both units, the DCP evaluated and documented the differences and the applicability to Unit 2. A determination was made as to whether the item required resolution for Unit 2, and the effect of the differing resolution of the review item on Unit 2 was evaluated and documented. Before implementing the Unit 2 resolution, the Unit 2 Project Engineering group reviewed the resolution to establish or confirm that it was consistent with licensing criteria and that appropriate action was taken to ensure that the Unit 2 requirements were satisfied. (Anderson et al., ff. Tr. D-224, at 30; Cranston, Tr. D-384-85.)

Both the ITP and IDVP reviewed and verified plant design. The two review efforts were independent of each other insofar as they were conducted by different organizations under strict and carefully administered procedures, and because each used its own technical methodology. Each review effort was in and of itself sufficiently comprehensive to provide reasonable assurance that licensing criteria have been satisfied and that the plant can be operated safely. Beyond the ITP's design review efforts, it performed additional functions that were interrelated with the IDVP review. The ITP provided data, analyses and other information requested by the IDVP and responded to all findings of the IDVP. The ITP implemented all corrective actions in response to both its own findings and those of the IDVP. The two programs were further interrelated because the IDVP verified two major aspects of the ITP: the technical validity of the corrective action process and the ITP's compliance with a quality assurance program meeting 10 CFR 50, Appendix B. (Anderson et al., ff. Tr. D-224, at 3-4.)

Unit 2 Schedule

Unit 2 is currently undergoing hot functional testing and is expected to be ready for fuel load by mid-December. (Friend affidavit, Attachment 6.)

II
ARGUMENT

The twenty-two issues decided by this Board in ALAB-763 were comprised of nine basic contentions with, in some cases, subissues. Those issues were: 1(a) through (e), five issues dealing with the adequacy of the IDVP; 2(a) through (c), three issues dealing with the adequacy of the ITP; 3(f)(iii), (iv), (v); (o), (q) and (r), six issues dealing with the adequacy of seismic analyses; 4(i)(1), (1), and (t), three issues dealing with the adequacy of non-seismic system analyses; 5, dealing with Unit 1 and 2 as-builts; 6, dealing with the adequacy of Westinghouse design; 7, dealing with root causes of quality assurance deficiencies; 8, dealing with the ITP's quality assurance program and 9, dealing with the component cooling water system (CCWS).

The five issues under contention 1 dealt with the adequacy of the IDVP. Issue 1(e), directed solely at Unit 2, alleged that the IDVP did not verify the design of Unit 2. While the IDVP efforts were indeed directed at Unit 1, those efforts, by parity of reasoning, do verify the design of Unit 2. As set forth supra at 1-2, the IDVP verified the design criteria, methodologies, processes, procedures, and analyses for Unit 1. The same design criteria, methodologies, processes, and procedures were used for Unit 2 structures, systems, and components. Therefore, the IDVP did indeed verify the design criteria, methodologies, processes, and procedures for Unit 2. What they did not do on Unit 2 that they did on Unit 1 was to check, by sampling, final analyses.

The joint intervenors and Governor abandoned one of the three issues which was unique to Unit 2 in the DQA hearing, namely contention 2(d).^{3/} That contention alleged:

2. The scope of the ITP review of both the seismic and non-seismic aspects of the designs of the safety-related systems, structures and components (SS&C's) was too narrow in the following respects:

...

(d) The ITP has failed systematically to verify the adequacy of the design of Unit 2.

It is respectfully submitted that the ITP did systematically verify the adequacy of the design of Unit 2. Even though this Board made no such finding in ALAB-763, there was uncontroverted testimony as to how the systematic verification of the Unit 2 design had been and was continuing to take place. (Anderson et al., ff. Tr. D-224, at 28-30; Shipley, Tr. D-387-88, 393-94; Anderson, Tr. D-1426; Moore, Tr. D-385, 388; Cranston, Tr. D-384-85.) That verification is now nearly complete.

The six issues under contention 3 dealt with seismic issues. Five of the six issues (3(f)(iv), (v), (o), (q), and (r)) dealt with structures which are common to both units. Those structures are the auxiliary building (3(f)(iv) and (v)), the fuel handling building (3(o)), the buried diesel oil tanks (3(q)), and the intake (3(r)). The sixth issue, 3(f)(iii), dealt with containment tilting. As set forth supra at 2, the containment structures are essentially identical, and the same analysis applies to both units.

3. See footnote 1, supra. p. 1.

The three issues under Contention 4 were concerned with non seismic systems analyses. Specifically, those issues dealt with the auxiliary feedwater (AFW) pump room (4(i)(1)), jet impingement analyses (4(i)), and 4160 V bus circuit breakers (4(t)). The resolution of these issues was reviewed and approved by the IDVP in ITRs 18, 48, and 24, respectively. App. Ex. 110, 140, and 116. Pursuant to established procedure, these resolutions were applied to Unit 2. (Anderson et al., ff. Tr. D-224, at 29-30.) This Board ordered the Licensee to analyze three lines for Unit 1 which had not been analyzed as part of the ITP jet impingement analyses. The analyses for Unit 1 were completed and reported to the NRC on April 9, 1984. The analyses for the same three lines in Unit 2 have also been completed and no modifications were indicated. (Connell-Vahlstrom affidavit, Attachment 2.)

Contention 5 alleged that the verification program has not verified that Diablo Canyon Units 1 and 2 "as built" conform to the design drawings and analyses. This Board found, inter alia, that both the IDVP and ITP verified that the plant, as analyzed, is in conformity with the plant, as built, with respect to both its seismic and nonseismic design. (ALAB-763 at 71-73.) The as-built document process was verified by the IDVP. (Id. at 74-75.) The as-built process was, in all material respects, identical for Units 1 and 2. (Moore-Cranston affidavit, Attachment 4.)

Contention 6 charged that the design of the Westinghouse-supplied safety-related equipment was not verified as having met licensing criteria. This contention was not particularized as to unit, and, not surprisingly, none of the evidence received on the subject was particularized as to unit. This Board held that there was no basis to find that the verification effort was flawed by its exclusion of Westinghouse-supplied equipment and that reliance upon the Westinghouse quality assurance program was reasonable. (ALAB-763 at 77-82.) Reference to the record makes it clear that the Westinghouse quality assurance program applied equally to Units 1 and 2. (Kreh et al., ff. Tr. D-1088, at 1-5.)

In Contention 7 it was claimed that the verification program failed to identify root causes of deficiencies in Pacific Gas and Electric Company's quality assurance program. As with Contentions 6, 8, and 9, this contention was not directed at either Unit 1 or 2, but at the totality of the project. Again, by parity of reasoning, the Board's finding that the causes for the failures of the quality assurance program and the evaluation of those errors for generic concerns had been sufficiently addressed by the verification program is equally applicable to Units 1 or 2. (ALAB-763 at 87.) A review of the record shows that the issue of root causes was not unique to separate units. (de Uriarte et al., ff. Tr. D-847, at 1 et seq.; Reedy, et al., ff. Tr. D-1459, at 7-1 et seq.; Knight et al., ff. Tr. D-2906, at 1 et seq.)

Contention 8 maintained that the ITP failed to timely develop and implement an adequate QA program. This Board found that the ITP's quality assurance program governing the verification program was adequate. (ALAB-763 at 98.) The QA program for Units 1 and 2 was, in all material respects, the same. (Jacobson affidavit, Attachment 5.) All elements of the QA program were applied to the Unit 2 design efforts, and an audit of the Unit 2 internal review of Unit 1 verification program results found that the program was being effectively implemented. (de Uriarte et al., ff. Tr. D-847, at 24.)

Contention 9 maintained that there was no adequate assurance that the CCWS's heat removal capacity was not sufficient, even with a technical specification limitation, to comply with GDC-44. As stated previously, this contention was never thought of as applying to one unit or the other. The reason for this is obvious. The CCWSs for the two units are essentially identical and the same design criteria, methodology, and procedures apply to both. (Connell affidavit, Attachment 7.) The Board's finding that the applicant's technical specification is sufficient to meet the requirements of GDC-44 is equally applicable to both Units 1 and 2.

III

CONCLUSION

There is more than sufficient evidence in the record to permit this Board to conclude that the design of Unit 2 is adequate upon submittal by the Staff of

its SSER on Unit 2. The structures, systems, and components of the two units are either common, identical, or similar so that the same design criteria and methodology apply to both. The IDVP efforts and findings on Unit 1 are directly transferable to Unit 2 and the ITP systematically verified the design of Unit 2 and transferred all lessons learned from Unit 1. It is respectfully submitted that this Board should, on the record as it now exists, issue its finding that the design of Unit 2 is adequate.

Dated: September 28, 1984

Respectfully submitted,

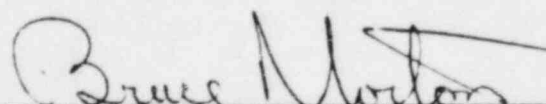
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Attorneys for
Pacific Gas and Electric Company

Dated: September 28, 1984

By 
Bruce Norton

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

_____)	
In the Matter of)	
)	
PACIFIC GAS AND ELECTRIC COMPANY)	
)	
(Diablo Canyon Power Plant)	
Units 1 and 2))	
_____)	

Docket Nos. 50-275
50-323

AFFIDAVIT OF E. C. CONNELL, III

STATE OF CALIFORNIA)	
)	
CITY AND COUNTY OF SAN FRANCISCO)	

ss

The above being duly sworn, deposes and says:

I, Edward C. Connell, III, am the Mechanical Group Supervisor for the Diablo Canyon Project. My qualifications have been previously submitted before this Board in the 1983 Design Quality Assurance hearings. Connell, III, et al., ff. Tr. D-487.

The Unit 2 CCW system is the same as that provided for Unit 1 in all significant respects and is designed to the same criteria as used for the

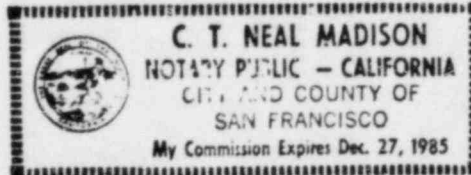
Unit 1 CCW system. FSAR, App. Exc. 5, Section 9.2, Tr. 3456, LPB 79-26,
10 NRC 453, 459 (1979).

Dated: September 28, 1984

E. C. Connell III

E. C. CONNELL, III

Subscribed and sworn to
before me this 28th day
of September, 1984.



C. T. Neal-Madison

Cynthia Neal-Madison
Notary Public in and for the
City and County of San Francisco
State of California
My commission expires
December 27, 1985

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

DOCKETED
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In the Matter of)

PACIFIC GAS AND ELECTRIC COMPANY)

(Diablo Canyon Power Plant)
Units 1 and 2))

Docket Nos. 50-275
50-323

AFFIDAVIT OF E. C. CONNELL AND W. VAHLSTROM

STATE OF CALIFORNIA)

CITY AND COUNTY OF SAN FRANCISCO)

ss

The above being duly sworn, depose and say:

I, Edward C. Connell III, am a Mechanical Group Supervisor for the Diablo Canyon Project. My qualifications have been previously submitted before this Board in the 1983 Design Quality Assurance hearings. Connell, III, et al., ff. Tr. D-487.

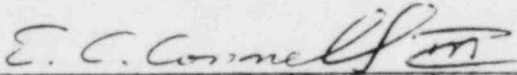
I, Wallace Vahlstrom, am the Senior Electrical Engineer for the Diablo Canyon Project.

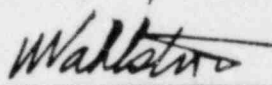
1. The Mechanical, Electrical, Instrumentation and Control (I&C) and HVAC systems in Unit 2 are the same as the systems used on Unit 1. The basic system functions, criteria, design and methodologies are identical between units. Anderson et al., ff. Tr. D-224 at 28-29.
2. Nearly all of the safety related Mechanical, Instrumentation, HVAC and Electrical equipment in Unit 2 is identical and interchangeable with the corresponding equipment in Unit 1. Anderson et al., ff. Tr. D-224 at 28-29. The Unit 2 reactor has a slightly higher thermal output rating than the Unit 1 reactor: however, the physical differences between reactors are very minor. App. Ex. 5, Section 1.1, Tr. 3456, LPB-79-26,

10 NRC 453, 459 (1979). All of the accident analyses that are dependent upon reactor parameters were based on Unit 1 or Unit 2 parameters as appropriate to give the bounding case. App. Ex. 5, Chapter 15, Tr. 3456, LPB-79-26, 10 NRC 453, 459 (1979).

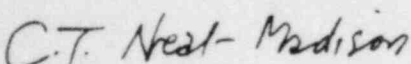
3. The seismic and environmental qualification for equipment was done using the same criteria and methods. Anderson et al., ff. Tr. D-224 at 29.
4. In the completion and verification for Unit 2, every issue that was reviewed, addressed, or verified for Unit 1 was (or is being) also reviewed, addressed, or verified and, thereby, fully resolved for Unit 2. Anderson et al., ff. Tr. D-224 at 5-7, 28-30.
5. In response to Contention 4(1), the Board ordered Licensee to analyze three lines of Unit 1 which had not been analyzed as part of the ITP jet impingement analyses. The analysis for Unit 1 was completed and reported to the NRC on April 9, 1984 (Exhibit A) and the analysis for the same three lines for Unit 2 have been completed. No modifications are indicated to be necessary.

Dated: September 28, 1984


E. C. CONNELL, III


W. VAHLSTROM

Subscribed and sworn to
before me this 28th day
of September, 1984.



Cynthia Neal-Madison
Notary Public in and for the
City and County of San Francisco
State of California
My commission expires
December 27, 1985



UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

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OFFICE OF THE SECRETARY
DOCKETED & FILED
APR 1 1984

In the Matter of)

PACIFIC GAS AND ELECTRIC COMPANY)

(Diablo Canyon Power Plant)
Units 1 and 2)

Docket Nos. 50-275
50-323

AFFIDAVIT OF H. B. FRIEND

STATE OF CALIFORNIA)

CITY AND COUNTY OF SAN FRANCISCO)

ss

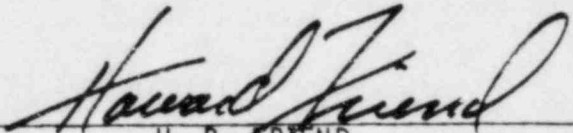
The above being duly sworn, deposes and says:

I, Howard B. Friend, am the Project Completion Manager for the Diablo Canyon Project. As such, I am knowledgeable of the schedules for Unit 2. My qualifications have been previously submitted before this Board as a portion of PGandE's Answer dated March 6, 1984, in Opposition to Joint Intervenors' Motion to Augment or in the Alternative, to Reopen the Record.

- (1) The Unit 2 schedule for fuel load is November 26, 1984. Hot functional testing is in progress and is proceeding satisfactorily.

(2) Overall, testing and plant completion activities are 2-3 weeks behind schedule, which, at this time, makes fuel load likely by mid-December.

Dated: September 28, 1984


H. B. FRIEND

Subscribed and sworn to
before me this 28th day
of September, 1984.



C. T. Neal-Madison
Cynthia Neal-Madison
Notary Public in and for the
City and County of San Francisco
State of California
My commission expires
December 27, 1985

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

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In the Matter of)
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)
 PACIFIC GAS AND ELECTRIC COMPANY) Docket Nos. 50-275
) 50-323
)
 (Diablo Canyon Power Plant)
 Units 1 and 2))
)

OFFICE OF SECRETARY
GENERAL INVESTIGATIVE
DIVISION

AFFIDAVIT OF M. J. JACOBSON AND T. G. de URIARTE

STATE OF CALIFORNIA)
) ss
 CITY AND COUNTY OF SAN FRANCISCO)

The above being duly sworn, depose and say:

I, M. J. Jacobson, am the Project Quality Assurance Engineer for the Diablo Canyon Project. My qualifications have been previously submitted before this Board in the 1983 Design Quality Assurance hearings. de Uriarte et al., ff. Tr. D-847.

I, T. G. de Uriarte, am the Director of Program Management for Pacific Gas & Electric Company's Quality Assurance Department. My qualifications have been previously submitted before this Board in the 1983 Design Quality Assurance hearings. de Uriarte et al., ff. Tr. D-847.

1. All elements of the PGandE and DCP QA Programs have been equally applied to both Unit 1 and Unit 2 design efforts. de Uriarte et al., ff. Tr. D-847 at 24; Moore Tr. D-3165.
2. Between November 1981 and August 1982, the developing DCP was conducted under the PGandE QA Program. This program, in total, applied to both Units 1 and 2. de Uriarte et al., ff. Tr. D-847 at 9, 24. Project Engineering was controlled by and implemented procedures contained in the PGandE Engineering Manual. Moore, Tr. D-3161, D-3165.

3. From August 1982 to the present, all work was performed under the DCP QA Program. The DCP QA Program was developed from the NRC-approved Rechte1 Topical Report, BQ-TOP-1, Rev. 3A. The PGandE Engineering Manual was modified or supplemented where necessary to mesh with the DCP QA Program. de Uriarte et al., ff. Tr. D-847 at 10, 13, 16. Engineering procedures in this manual were used to implement the QA Program requirements for both units. Moore, Tr. D-3161, D-3165.
4. The IDVP, through R. F. Reedy, Inc., performed an in-depth audit of the QA program applied to the Corrective Action Program. App. Ex. 133.
5. The IDVP audits confirmed the timeliness and adequacy of the QA Program which is applicable to both units. Reedy et al., ff. Tr. D-1459 at 8-4 - 8-7. In addition, the Staff confirmed that the Corrective and Preventative Action Programs implemented by the ITP was timely and sufficient to assure that licensing criteria have been met Morrill, ff. Tr. D-2906, at 4-6, Haass, ff. Tr. D-2906, at 3, 4.

Dated: September 28, 1984

M. J. Jacobson

 M. J. JACOBSON

 T. G. de URIARTE

Subscribed and sworn to
 before me this 28th day
 of September, 1984.

C.T. Neal-Madison

Cynthia Neal-Madison
 Notary Public in and for the
 City and County of San Francisco
 State of California
 My commission expires
 December 27, 1985



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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

_____)
In the Matter of)

PACIFIC GAS AND ELECTRIC COMPANY)

(Diablo Canyon Power Plant)
Units 1 and 2)
_____)

Docket Nos. 50-275
50-323

AFFIDAVIT OF G. H. MOORE AND G. V. CRANSTON

STATE OF CALIFORNIA)

CITY AND COUNTY OF SAN FRANCISCO)

ss

The above being duly sworn, depose and say:

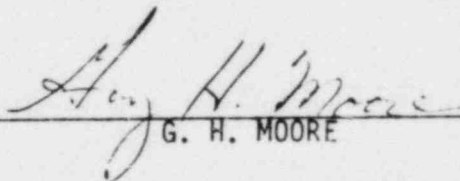
I, Gary H. Moore, am the Project Engineer for the Diablo Canyon Project, Unit 1. My qualifications have been previously submitted before this Board in the 1983 Design Quality Assurance hearings. Anderson et al., ff. Tr. D-224.

I, Gregory V. Cranston, am the Project Engineer for the Diablo Canyon Project, Unit 2. My qualifications have been previously submitted before this Board in the 1983 Design Quality Assurance hearings. Anderson et al., ff. Tr. D-224.

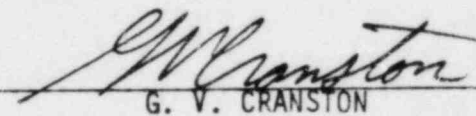
1. All completion and modification work performed by the Diablo Canyon Project conformed to PGandE's Engineering Manual which provides for engineering review of construction results and revision of design documents to reflect as-built conditions. Anderson et al., ff. D-224, at 32. App. Ex. 161.

2. The design process specified for Unit 2 was that used for Unit 1. The primary difference in the written procedure for Unit 1 is that 3.6 ON has added levels of review by the Nuclear Power Operations Department for any design change in conformance with technical specification requirements. Procedure 3.6 ON, App. Ex. 161. That review does not affect the quality of the design or the design change.
3. Procedure 3.7, "As-Built Documents," applies to both Units 1 and 2. This "as-built" portion of the design process is monitored and audited for compliance with all elements of the PGandE and DCP QA Programs. de Uriarte et al., ff. Tr. D-847, at 24; App. Ex. 161.

Dated: September 28, 1984



G. H. MOORE



G. V. CRANSTON

Subscribed and sworn to
before me this 28th day
of September, 1984.

C. T. Neal-Madison
Cynthia Neal-Madison
Notary Public in and for the
City and County of San Francisco
State of California
My commission expires
December 27, 1985



UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of)

PACIFIC GAS AND ELECTRIC COMPANY)

(Diablo Canyon Power Plant)
Units 1 and 2)

Docket Nos. 50-275
50-323

AFFIDAVIT OF L. E. SHIPLEY

STATE OF CALIFORNIA)

CITY AND COUNTY OF SAN FRANCISCO)

ss

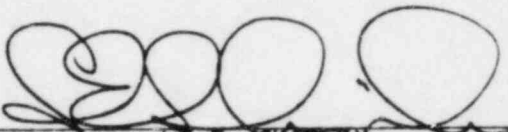
The above being duly sworn, depose and say:

I, Larry E. Shipley, am currently the Chief Plant Design Engineer for the San Francisco Area Office of the Western Power Division, Bechtel Power Corporation. I have served as the Piping Consultant for the Diablo Canyon Project prior to my current assignment. My qualifications have been previously submitted before this Board in the 1983 Design Quality Assurance hearings. Anderson et al., ff. Tr. D-224.

The piping arrangement is essentially the same for Diablo Canyon Units 1 and 2. Anderson et al., ff. Tr. D-224 at 28-29. Minor differences do exist in piping arrangement and pipe support design which result primarily from the "opposite hand" arrangements of Unit 1 vis-a-vis Unit 2. These minor differences in piping design are necessary to accommodate equipment which is identical to that furnished for Unit 1 (same hand) for use in the opposite hand arrangement for Unit 2. Due to the rigorous analytical nature of piping

design, these minor differences still required a complete set of unique analyses, calculations and pipe support designs for Unit 2 (D-387, 393-394). However, the same criteria, methodology, design process and basic procedures which were employed for the Unit 1 review, verification and modification effort were used for the analyses, calculations and designs for Unit 2 piping. Anderson et al., ff. Tr. D-224 at 30.

Dated: September 28, 1984


L. E. SHIPLEY

Subscribed and sworn to
before me this 28th day
of September, 1984.



C. T. Neal-Madison
Cynthia Neal-Madison
Notary Public in and for the
City and County of San Francisco
State of California
My commission expires
December 27, 1985

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of)

PACIFIC GAS AND ELECTRIC COMPANY)

(Diablo Canyon Power Plant)
Units 1 and 2)

Docket Nos. 50-275
50-323

AFFIDAVIT OF W. H. WHITE

STATE OF CALIFORNIA)

CITY AND COUNTY OF SAN FRANCISCO)

ss

The above being duly sworn, deposes and says:

I, William H. White, am currently the Assistant Project Engineer for the seismic area for the Diablo Canyon Project. I am also an engineering specialist for the San Francisco area office of the Western Power Division, Bechtel Power Corporation. My qualifications have been previously submitted before this Board in the 1983 Design Quality Assurance hearings. Anderson, et al., ff. Tr. D-224.

1. Major structural systems in Units 1 and 2 can be grouped as follows:

- (1) Essentially identical structures: Specifically, the containments and Class I outdoor storage tanks and buried diesel fuel oil tanks of the two units. Anderson et al., ff. Tr. D-224, at 28-30.
- (2) Common structures which are the auxiliary building, the fuel handling building and the intake structure. Anderson et al., ff. Tr. D-224, at 28-30.
- (3) Similar structures which include the annulus structures (inside containment) and the turbine building. These steel structures in

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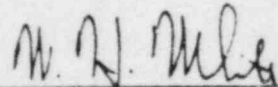
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Unit 2, although similar in geometry to their counterparts in Unit 1, exhibit some minor variations in configuration. Anderson et al., ff. D-224, at 28-30.

2. Since structures mentioned in (1) and (2) above are either essentially identical or common, the criteria, methodology and evaluation which were applicable to these structures in Unit 1, and which were reviewed by the Independent Design Verification Program (IDVP), remained the same for Unit 2.
3. The similar structures mentioned in (3) above were evaluated separately for Unit 2; however, the evaluation criteria and the methodology, which were reviewed and approved by the IDVP for Unit 1, were also applied to these Unit 2 structures.
4. There is also one Final Safety Analysis Report (FSAR) which is common to both Units 1 and 2. App. Ex. 5, Sections 3.7 and 3.8, Tr. 3456, LPB-7926, 10 NRC, 453, 459 (1979).

Dated: September 28, 1984



W. H. WHITE

Subscribed and sworn to before me this 28th day of September, 1984.



C. T. Neal-Madison
Cynthia Neal-Madison
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
PACIFIC GAS AND ELECTRIC COMPANY)
)
Diablo Canyon Nuclear Power Plant,)
Units 1 and 2)
_____)

Docket No. 50-275
Docket No. 50-323

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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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