PDR

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CHAIRMAN

June 19, 1984

The Honorable Leon Panetta
United States House of Representatives
Washington, DC 20515

Dear Congressman Panetta:

This responds to your letter of February 8, 1984 regarding the Diablo Canyon Nuclear Power Plant. We appreciate your interest in the licensing and safety of this plant. You have raised the following three issues in your letter: Commission consideration of the decision by the Atomic Safety and Licensing Appeal Board; NRC guidelines for resolving allegations on a priority basis; and NRC staff implementation of safety margins.

Regarding the first concern, on March 20, 1984 the Appeal Board issued its decision resolving the issues on design quality assurance regarding Diablo Canyon Unit 1 in favor of the Pacific Gas and Electric Company. The decision imposes a condition for the operation of the component cooling water system and also requires further analysis of the jet impingment effects inside containment. The Appeal Board decision is subject to review by the Commission, but the Commission has not yet decided whether or not to take review. The staff is continuing its evaluation of the jet impingment question and intends to resolve it prior to making a recommendation regarding operation above 5% power.

Your second concern regards the need for guidelines that will govern the evaluation of allegations. The staff provided these guidelines to the Commission in Supplement 22 to the Safety Evaluation Report (SSER 22, March 1984), a copy of which is enclosed. This report was used as part of the basis for reinstatement of the low-power license which the Commission made effective on April 19, 1984. The Commission understands that the staff intends to use these same guidelines in the evaluation of allegations related to full power authorization.

Finally, you express a concern over an apparent tendency of our staff to assume that the margins of safety established by our criteria need not be adhered to for systems which are not pivotal to safety, and that less precise, ad hoc standards of safety can be applied. This concern appears to be related to a substantive issue involved in the reopened hearing before the Appeal Board on design quality

assurance. As mentioned above, the Appeal Board decision is subject to review by the Commission. It is more appropriate, therefore, for the staff to respond directly to your concern. We have directed the staff to provide you with a separate response on this matter.

We trust that this letter and the separate staff letter are responsive to your concerns.

Sincerely,

Original signed by
Nunzio J. Palladino

Nunzio J. Palladino

Enclosure:
NUREG-0675: Supplement 22 to
Diablo Canyon Safety Evaluation
Report, March 1984

Cleared with Cmrs' Offices by SECY
Cmr. Gilinsky did not participate in the formulation of a response to this letter.
Ref.-CR-84-43

Originating Office: EDO/NRR:Schierling

OFFICE	SECY	SECY	OCA	OCM	OCM	OCM
SURNAME	KBissell	TCombs				
DATE	6/18/84	6/18/84	6/18/84	6/18/84	6/18	6/18/84

NUREG-0675
Supplement No. 22

Safety Evaluation Report

related to the operation of
Diablo Canyon Nuclear Power Plant,
Units 1 and 2

Docket Nos. 50-275 and 50-323

Pacific Gas and Electric Company

U.S. Nuclear Regulatory Commission

Office of Nuclear Reactor Regulation

March 1984

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GPO Printed copy price: $11.00

NUREG-0675
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Safety Evaluation Report

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Pacific Gas and Electric Company

U.S. Nuclear Regulatory Commission

Office of Nuclear Reactor Regulation

March 1984

ABSTRACT

Supplement 22 to the Safety Evaluation Report for Pacific Gas and Electric Company's application for licenses to operate Diablo Canyon Nuclear Power Plants, Unit 1 and 2 (Docket Nos. 50-275 and 50-323), has been prepared jointly by the Office of Nuclear Reactor Regulation and the Region V Office of the U. S. Nuclear Regulatory Commission. This supplement provides the criteria that were used by the staff to determine which of the allegations that have been evaluated must be resolved prior to Unit 1 achieving criticality and operating at power level up to 5 percent of rated power (i.e. low power operation). The supplement also reports on the status of the staff's investigation, inspection and evaluation of 219 allegations or concerns that have been identified to the NRC as of March 9, 1984, excluding those recently received under 10 CFR 2.206 petitions.

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INTRODUCTION

The staff of the U.S. Nuclear Regulatory Commission (NRC) issued on October 16, 1974, its Safety Evaluation Report (SER) in matters of the application of the Pacific Gas & Electric Company (PG&E) to operate Diablo Canyon Nuclear Power Plants, Units 1 and 2. The SER has since been supplemented by Supplements No. 1 through No. 21. SSER 18, 19 and 20 presented the staff's safety evaluation on matters related to the design verification efforts for Diablo Canyon Unit 1 that was the result of Commission Order CLI-81-30 and an NRC letter to PG&E of November 19, 1981. SSER 21 presented the program and the status of the staff review and evaluation of allegations and concerns identified to the NRC as of December 19, 1983. This is SER Supplement No. 22 (SSER 22) and is based on allegations and concerns identified to the NRC as of March 9, 1984.

This supplement provides the criteria that were used by the staff to determine which of the allegations that have been evaluated so far must be resolved prior to Unit 1 achieving criticality and operating at power level up to 5 percent of rated power (i.e. low power operation).

SSER 22 also presents the staff's safety evaluation of these 219 allegations. The staff evaluation of allegations and concerns is presented as Appendix E to the Safety Evaluation Report, consistent with the format of SSER 21. As of March 9, 1984, 219 individual allegations or concerns have been addressed by the staff. In addition, submittals were received in the form of 2.206 petitions from the Government Accountability Project (GAP) on February 2, 1984 and on March 1, 1984 which contain additional allegations. The staff has not yet been able to evaluate or categorize these new submittals in depth.

The NRC Project Manager for the Diablo Canyon Nuclear Power Plant is Mr. H. Schierling. Mr. Schierling may be contacted by calling (301-492-7100) or by writing to the following address:

Mr. H. Schierling
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Copies of this Supplement are available for public inspection at the Commission's Public Document Room at 1717 H Street, N.W., Washington, D. C., and at the California Polytechnic State University Library, Documents and Maps Department, San Luis Obispo, California 93407. Availability of all material cited is described on the inside front cover of this report.

APPENDIX E

STATUS OF STAFF RESOLUTION

OF

ALLEGATIONS OR CONCERNS

ABOUT

THE CONSTRUCTION

AND

OPERATION OF DIABLO CANYON

UNIT 1 AND 2

Table of Contents

1.0 Introduction

In early 1982 during the course of the Diablo Canyon Unit 1 design verification program certain allegations were made to the staff regarding the design and operation of the Unit 1 component cooling water system and certain other design aspects. The staff reviewed and evaluated the allegations on the basis of discussions with the individual expressing the concerns and issued its safety evaluation in Supplement No. 16 to the Safety Evaluation Report (SSER 16). Since then numerous additional allegations have been made and concerns expressed regarding the design, construction and operation of the Diablo Canyon Nuclear Power Plant and the licensee's management of these activities. In many cases the allegations include some aspect of quality assurance or quality control. The allegations were received by the NRC staff in the Region V Offices and at Headquarters as well as by the Commission. They were made by a variety of sources, including private citizens, former and current workers at the plant and at the PG&E and Bechtel Offices, news media, intervenors, and Congressional Offices. In some cases the source has remained completely anonymous to the NRC, in some cases the source is known only to the NRC, however, in most cases the source has been publicly identified. In many cases one source identified many items in a single submittal. In some cases the same allegation or concern was raised by more than one source. However, such same allegations from different sources were not combined in order to maintain a record of each item separately.

As a result of the numerous allegations the Commission directed the staff on October 28, 1983 to pursue all allegations and concerns to resolution and requested a status report on the investigation, inspection and evaluation effort prior to its decision regarding authorization of criticality and low power testing. The staff subsequently developed the Diablo Canyon Allegation Management Program (DCAMP) which was provided to the Commission on November 29, 1983 in a memorandum from the Executive Director for Operations. A summary of the program and the methodology applied are presented in Section 2 of this report. The program was described in detail in SER Supplement 21.

The staff is performing its investigation, inspection and evaluation of the allegations in accordance with the DCAMP. In late December the staff provided a status of its efforts in SSER 21 on those allegations that had been received by the NRC as of December 19, 1983. The staff provided the Commission with written summaries of its ongoing efforts on January 4, 1984 (SECY 84-3) and February 6, 1984 (SECY 84-61) and verbally briefed the Commission on January 23 and February 10, 1984.

SSER 21 included, as an attachment, an Individual Assessment Summary for each of the allegations. In some cases the summary contained sensitive information or was predecisional in nature, in that the disclosure could impair the staff's ability to initiate and/or conduct appropriate investigations or inspections. These summaries were issued separately, with a limited distribution consistent with the Commission's August 5, 1983, Statement of Policy on Investigations and Adjudicatory Proceedings (48 Fed. Reg. 36358).

Site Inspections

Many of the allegations required onsite inspections to verify construction practices, records, procedures and personnel qualification. These were handled by teams of staff personnel with appropriate consultants. In some cases additional, independent measurements and evaluations were performed where appropriate.

Technical Reviews

Consideration of allegations in technical areas previously reviewed by the staff included detailed evaluations using licensing documents, regulations, standards, additional information provided by the licensee, and independent analyses as necessary. In some cases additional audits were performed at the site or in the offices of the licensee and its contractors as necessary.

Interviews:

Interviews with site personnel (crafts, quality assurance personnel, engineers and management) were carried out as required to resolve the issues.

Public Meetings:

Where significant technical meetings were held, verbatim transcripts were generally taken to maintain an appropriate record.

Feedback from Allegers:

When practical, the staff attempted to discuss with the alleger the approach and findings of the staff's evaluation related to their allegation. The purpose was to assure that the staff properly understood the concern and to demonstrate how the staff dealt with the concerns.

Allegation Management Instruction:

Region V's instruction on allegation management was used as guidance for this process. The draft instruction (entitled "Management of Allegations") was provided as Attachment 4 to SSER No. 21.

The staff examined in detail almost all of the first 180 allegations.[1/] The purpose in doing this was to gain an overall perspective of not only the technical aspects of the problems raised but also to use the specific allegation as a vehicle for assessing whether the licensee and its major contractors acted responsibly over the years. Considerable insight was developed on the licensee's and contractor's management control and quality control activities.

1/ The allegations were not addressed in the same sequence as presented in Attachment 1.

4. Criteria for Priority Resolution of Allegations

During the staff evaluation of the first 219 allegations criteria evolved to be applied to identify those allegations which need to be pursued and resolved with the highest priority due to their significance regarding criticality and low power operation. Particular consideration was given as to whether or not an issue caused operability to be drawn into question or whether a significant deficiency in management or quality was indicated. During the preliminary review the following considerations were applied:

- Is the allegation a specific safety or quality issue or a generalized concern?
- Has the staff previously addressed this issue?
- Has the issue been previously dealt with or is it now being dealt with by the licensee?
- Is the allegation reasonable and does it sound competent?
- Does the allegation represent a significant safety or management concern?

In addition to these considerations the staff considered two specific aspects in making its determination as to whether the allegation must be satisfactorily resolved or not resolved prior to criticality and low power operation. The two aspects are experience gained and fission product inventory resulting from low power operation. Both are addressed below.

The operation of Diablo Canyon Unit 1 at low power utilizes most of the same systems as at full power. Furthermore, systems and components will operate and be exposed to design pressure and temperature. Operation at low power would therefore provide a means to determine and evaluate the plant performance under more realistic conditions. In particular, such operation would expose the plant to actual thermal stresses and would result in and identify any interferences between pipes and supports and restraints under operating conditions. Therefore, a systematic low power operation program would identify deficiencies or confirm analytically determined deficiencies, if any, that subsequently could be corrected.

3. Prior to exceeding 5 percent power those allegations or concerns must be resolved which offer specific new information, not previously available to the staff, and which may reasonably be expected to involve sizeable failures of systems that contain radioactivity or of the ECCS systems. In addition, sufficient technical information regarding these allegations or concerns is not presently available to the staff, or programs have not been developed or implemented to assure that regulatory concerns related to reactor safety will be resolved prior to exceeding 5 percent power.

In formulating these criteria the staff emphasized that the new information must be definitive, specific and credible. As the staff has gained experience in evaluating the first 200 allegations addressed in this report it developed reasonable confidence to conclude that the licensee and its contractors have acted responsibly over the years. Although there have been some lapses the quality and management systems related to construction have worked reasonably well. As a result of this perspective gained the staff feels that the burden has shifted somewhat such that allegations of a general or circumstantial nature should not be "assumed true until proven otherwise".

5. Allegations Related to Reactor Criticality Considerations

In SSER 21 and SECY 84-61 the staff identified seven areas of concern (involving 21 allegations) which required resolution prior to reactor criticality and low power operation. Since early of this year the staff has pursued the resolution of these issues with the highest priority and has devoted extensive effort to the inspections and evaluation of these matters. As a result the staff reviews have progressed to the point that the issues are either completely resolved or resolved to the point where they no longer warrant full resolution prior to reactor criticality considerations. The status of each of these issues is provided below.

5.1 Small Bore Piping Design Adequacy (Allegation: 55, 79, 82, 86, 87, 88, 89, 89, 95, 97):

In the course of investigating the numerous allegations concerning the design of small bore piping supports the staff reviewed a large quantity of material concerning general design practices, implementation of design control measures and the conduct of specific analyses. These efforts included inspections at the On-Site Project Engineering Group (OPEG), the essentially self-contained engineering group responsible for small bore piping design and analyses at the Diablo Canyon Site, and inspections at the San Francisco offices of PG&E and the Bechtel Corporation.

As a result of these inspections a number of the allegations related to the administration of the OPEG were substantiated in whole or in part. Specifically, allegations related to deficiencies in document control at the site, site specific training and effective use of deficiency reports were substantiated.

The principal technical finding is that the analyses performed by computer for small bore piping supports have been determined to have an unexpectedly large error rate, on the order of twenty percent as compared to ten or less percent that experience has shown is likely. On the other hand the error rate in the

5.2 Anchor Bolt Design Margins and Installation (Allegations 25, 58, 96, 142, 154, 176):

The concerns raised by these allegations involve the installation and inspection of concrete expansion anchors by the H. P. Foley Company (primary electrical contractor and construction completion contractor). A general and non specific concern with anchor bolts was supplied initially to the staff from an anonymous alleger. Subsequent interviews of onsite contractor personnel resulted in additional concerns with added detail in some cases. The staff approach to resolution of these isues was to: (1) review installation procedures, audits, nonconformance reports, discrepancy reports, and licensee correspondence relating to concrete anchor bolts; (2) have an independent NRC contract team (Lawrence Livermore National Laboratory) inspect a sample of 124 electrical raceway supports modified in 1982 (involving hundreds of anchor bolts); and (3) request the licensee to perform torque tests and ultrasonic examination on a sample of 40 installed anchor bolts to verify the adequacy of installation. The staff found that none of the allegations involved a substantive quality or management control problem. During the course of this review, however, the staff identified a number of their own technical concerns related to anchor bolt adequacy. In response to a staff request the licensee undertook an extensive test and evaluation program. The results of this program were reported to the NRC, concluding that adequate margins of safety were provided in the installed anchor bolts.

Based on the results of the test program the staff concludes that there is reasonable assurance that installed anchor bolts are adequate. Accordingly, the staff considers this issue adequately resolved for the purpose of licensing decisions.

5.3 Inspector Certification (Allegations 57 and 68):

In response to the allegations concerning certification of quality control inspectors employed by both the H. P. Foley Company and by the Pullman Power Products Company (primary piping installation contractor) at the Diablo Canyon project, the staff examined the contractor's programs and their implementation in effect during the companies' activities to assess whether appropriately qualified persons performed quality control inspections of safety related items. The staff concluded from their examination that there is reasonable assurance that individuals performing quality control inspection were qualified to perform their assigned tasks with the exception of a case involving Pullman Power Product Company during the 1973-74 time frame. In this case certain QC inspectors were found to have been performing inspections prior to completely satisfying prescribed certification requirements. All but two of these individuals had adequate backgrounds and experience in the areas of welding and quality control inspection. It does not apoear that this problem was chronic or widespread. The licensee has committed to complete a sample reinspection of the inspectors' work prior to the time that they were fully certified to perform the related visual inspections. This effort will be completed by March 30, 1984.

The licensee has selected a 10% sample of the other (non-safety related) inspections related to the inspector and performed a reinspection (involving 940 welds). Seven of the 940 reinspected welds were found to have deviations from requirements, these are being properly addressed. Based upon the low defect rate the licensee has concluded that the structures and components installed at Diablo Canyon have not been adversely impacted by the former inspector's alleged performance. The staff concurs with this conclusion based upon a review of licensee actions and independent inspection of the fifteen safety-related items.

Neither the licensee nor the staff can determine conclusively whether the former inspector neglected to do the inspections.

The staff has completed a substantial amount of review on the second and third groups of allegations, and to date has not identified problems of safety significance, the reviews, however, are continuing (e.g. the staff has not completed their review of the operations at the vendors subsidiary). These allegations are mainly general in nature, lacking in specific examples thus requiring extensive interviewing and document reviews.

In a parallel effort the licensee has initiated an inspection of installed hardware to allow a direct assessment of material adequacy, separate from the management and programmatic concerns related to the vendor. Items that are being reinspected were selected by reviewing all shop drawings and selected purchase orders involving the vendor's material shipped t the jobsite since 1969 and includes samples of each material type supplied to Diablo Canyon with particular attention to items which are difficult to fabricate or involve special materials.

90% of the sampling has been completed and the licensee reports that the following trends and results are apparent:

a) General inspections are finding that the existing geometries and dimensions are in conformance with the shop drawings.

b) Hardness tests are indicating that correct materials were provided.

c) Visual weld inspections are indicating that vendor welding meets design requirements.

d) Records from the NDE documentation research show that full penetration welds by the vendor are satisfactory.

In addition to the licensee's reinspection the staff has independently inspected a small sample (14 types of components) of installed safety related hardware to obtain first hand evidence of product quality. The components were visually inspected for material damage, weld location, length, size, shape, reinforcement, appearance and type. The staff did not identify any discrepant material. Records related to this material were reviewed and appeared to be in order.

A review of records disclosed that the deficiencies in the anchorage of the structural steel had been previously identified by a Foley inspector on October 7, 1983. The inspector observed from his review of the records that the platform steel was not designated Class I (safety-related) despite the fact that this structural steel was being used to support Class 1E electrical panels in the cable spreading room.

The condition identified by the NRC inspection was documented in a nonconformance report and provided to engineering for assessment of technical adequacy.

This issue was addressed in the licensee's letter to Region V (No. DCL-84-047), dated February 7, 1984. The licensee determined the as-built condition of the cable spreading room platform installation. The as-built condition was analyzed by the licensee's engineering verifying that the installed condition was acceptable and conformed with design requirements. In assessing the generic implications of this issue it was determined that the unique nature of the steel-frame raised-floor configuration led to the acceptance of the design and material without the detailed type of as-builting and analysis that was performed for the other structures. This type of configuration exists only in the cable spreading rooms. All other platforms which support Class I equipment have been analyzed. Therefore, this installation is not a generic issue.

The staff concludes that the licensee has adequately demonstrated the acceptability of the cable spreading room platform installation. The staff considers that this issue is resolved and does not require further action.

6. Concerns Relating to Employee Intimidation

A few of the allegations received by the staff related to possible intimidation of workers at the plant. The staff took specific action to assess whether this condition was a widespread problem or concern at the facility. The staff effort on Diablo Canyon allegations involved several thousand staff man-hours on-site, where staff members have interfaced with hundreds of licensee and contractor crafts, quality personnel, engineering personnel, supervisors, and managers. During the course of this effort the staff was instructed to be alert and look for evidence of "corner cutting" or pressure by management that would be counter to good quality practice. The staff interactions with site personnel included informal one-on-one discussions, group discussions, and formal meetings. The staff also observed groups and individuals interacting among themselves in very casual situations (such as during plant tours, and lunch room and work area discussions). These types of observations have been useful in gathering a subjective sense for the overall plant "atmosphere" regarding issues such as freedom to discuss concerns or intimidation. In addition, approximately 250 site personnel were specifically questioned regarding such items as pressures to "cut corners", intimidation, or freedom to bring forth quality and safety related concerns. These interviews were conducted, in part, to determine if there was a generalized atmosphere to repress problems or safety concerns.

6. The staff effort is sufficiently complete regarding the 219 allegations to conclude that none of the allegations indicate problems of such a magnitude, either individually or collectively, that should preclude authorization for criticality and low power operation.

ATTACHMENT 1

DIABLO CANYON

LIST OF ALLEGATIONS OR CONCERNS

AS OF MARCH 9, 1984

LIST OF ALLEGATIONS

Allegation

1. Passing of contraband
2. Anti-nuclear demonstration
3. Seismic qualification of CCW
4. Single failure capability of CCW
5. Heat removal capability of CCW
6. I&C design classification

6a. Feedwater isolation classification

7. Seismic Category I/Category II interface
8. Seismic design of diesel generator intake and exhaust
9. NRC staff concern regarding USI-17: Systems Interaction
10. Tilting of containment
11. Classification of platform
12. High energy line break analysis did not meet FSAR, RG 1.46
13. Inadequate seismic systems
14. Loads on annulus structural steel not calculated properly
15. Inadequate tornado load analysis of turbine building
16. High energy pipe break restraint inadequate
17. NSSS inadequate SSE load
18. QA/QC allegations
19. Guard qualification
20. Health physics personnel do not meet ANSI requirements

44. Licensee improper assessment of DCN

45. Design inconsistency in FSAR for RHR valves

46. Foley QA procedures voiding of NCR's incorrect

47. Plant paging/announcing system

48. Systems interaction study and associated modifications

49. Emergency sirens not seismically qualified

50. Plant security should have been retained

51. Risk of job action against allegers

52. Construction and hearings after fuel load inappropriate

53. Welder qualification

54. Wire traceability not evident for work by PG&E and Foley

55. Bechtel approved analysis of small bore pipe by altering failed analysis

56. Pitting of main steam and feedwater piping

57. Foley used uncertified and unqualified Q.C. inspectors prior to 1983

58. Foley allows "Red Head" anchor studs reported as improperly installed

59. Foley lost cable traceability

60. Foley purchased material through unapproved vendors

61. Lack of document control

61a. Foley used unapproved drawing

62. Foley lacks adequate sampling of cable-pull activities

63. Foley lost material traceability through upgrade of non Class 1 to Class 1

64. Grout test sampling based on special tests rather than field tests

65. Foley QA documents prior to 1980 in question

66. Defective weld reports rejected by Foley

91. Alleged cover-up of defective material

92. Flare bevel welds undersized and not complying with Code

93. Inaccurate depiction of welds on drawings

94. Pullman used pipe welding procedures to make structural support welds

95. Angles of pipe support member are out of specification

96. Improper anchor bolt spacing ("Hilti" and "Red Head")

97. Site design engineers required to use uncontrolled documents

98. Possible non-adherence of pentration seal procedure

99. Falsification of welding quality control records

100. No quality control program for coatings

101. Qualification of welders and procedures

102. Improper references on DCN

103. Structural shapes not listed on WPS

104. Materials not listed in AWS code

105. Weld joint geometry not specified by the WPS

106. AWS 1-1 technique sheet not utilized

107. AWS 1-1 technique sheet improperly authorized

108. AWS 1-1 technique sheet listed non-ANS code steel

109. Contract specification for pipe support welding not followed

110. Pipe supports not welded in accordance with AWS 1-1

111. Welders qualified to ASME 1X (ESD 216)

112. Welders qualified to AWS D1.1 (ESD 243)

113. Contract specification not officially changed

114. Notch toughness requirement not followed

115. Unauthorized change to UT requirement in contract specifications

140. Foley used material purchased for one contract on another

141. Foley performed transverse welding across beams (installation of unistrut)

142. Foley inadequately installed and checked anchor bolts

143. Foley did not torque beam clamps at installation

144. Foley installs P1100 conduit clamps too close to channel edges

145. Foley did not specify raceway materials in details

146. Foley does not keep raceways free of damaging debris

147. Foley installs different vital systems on single support

148. Foley QC identifying unsatisfactory work

149. Foley did not submit HVAC as-built information during 1981/82

150. Foley may have falsified structural steel and tubing heat records

151. Foley installs too many conduits or supports

152. Concerns with installation of P1331 conduit clamps

153. Foley specifies 1/8" welds or 3/32" clamp material

154. Foley does not specifcy adequate inspection criteria for anchor bolts

155. Welding on embedded plates causes distortion

156. Foley-possible intimidation of personnel

157. Pullman-possible intimidation of personnel

158. Unit 2 annulus design-inadequate seismic load combinations

159. Unit 2 annulus design-steel members may be over stressed

160. Unit 2 annulus design-bracings carry axial loads and supports

161. Unit 2 annulus design many assumptions of Class II and small bore loads

162. Unit 2 annulus design-calculations changed by reviewers

186. Operators do not know how to operate two component foam equipment

187. Many foam seals are not good

188. QA breakdown at Pullman

189. Magnaflux weld verification program accepted bad welds

190. Pipe support base plate installation do not define bearing surface

191. PG&E has attitude that "QC finds too many problems"

192. Acceptance criteria changed to decrease weld failure rate

193. Poor QC inspector selection and training

194. Document control is informal (rules made up as they go along)

195. Document control stamps are not controlled

196. Intimidation by a Foley QC person against a supervisor

197. Intimidation by a Foley QC person on subordinates

198. Foley QC person handles work packages incorrectly

199. Foley QC rushing work to meet schedules

200. NDE Reports inconsistent with contractors inspection reports

201. NDE Reports changed w/o proper approvals

202. Falsification of weld x-rays

203. Square tubing for seismic supports is uncontrolled

204. Contractor engineering modified PG&E drawings

205. Unqualified electrical splices on solenoids

206. Electrical conduit may not be controlled

207. Inadequate training for Pullman work activity

208. Unacceptable management attitude for resolution of deficiency reports

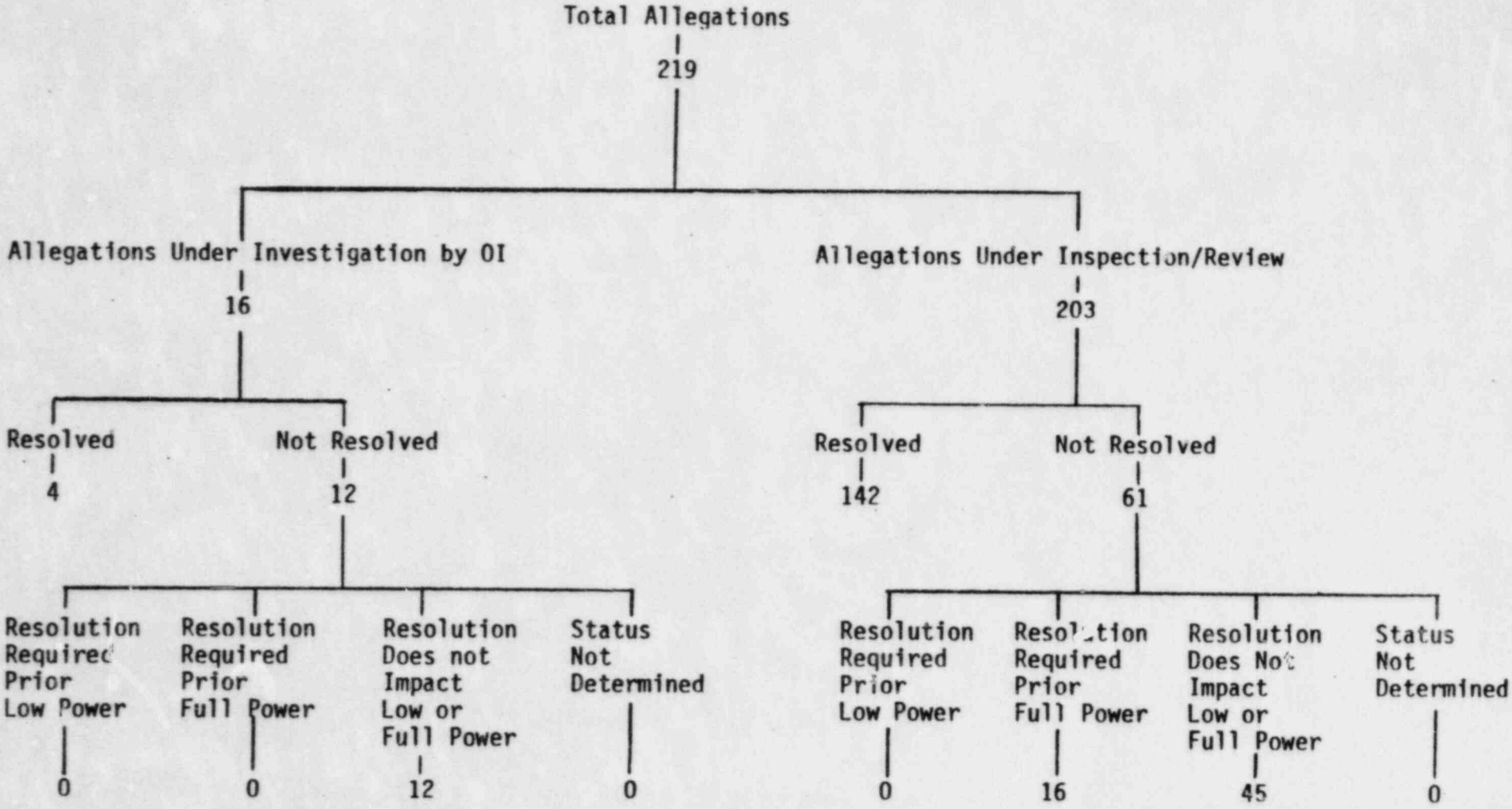
ATTACHMENT 2

DIAGRAM OF ALLEGATION STATUS

MARCH 9, 1984

Attachment 2

ALLEGATION STATUS AS OF MARCH 9, 1984



Low Power: Criticality and Operation Below 5% Power

Full Power: Operation above 5% power

ATTACHMENT 3

TABLE OF ALLEGATIONS STATUS

MARCH 9, 1984

Attachment 3

Table of Allegation Status

(March 9, 1984)

I. Total Allegations 219

A. Allegations under investigation by OI 16
B. Allegations under inspection/evaluation 203

II. Investigation Items 16

A. Resolved 4
(Allegation: 1, 2, 23, 53)

B. Not Resolved 12

1. Resolution prior to Low Power 0
2. Resolution prior to Full Power 0
3. Resolution w/o impact 12
4. Resolution not determined 0
(Allegation: 18, 19, 70, 81, 99, 120
130, 156, 157, 196, 197, 202)

III. Inspection/Evaluation Items 203

A. Resolved 142
(Allegation: 3, 4, 6, 6a, 7, 8,
9, 10, 11, 14, 15, 16,
17, 20, 21, 22, 24, 25,
26, 27, 28, 29, 30, 31,
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ATTACHMENT 4

INDIVIDUAL ASSESSMENT SUMMARIES

MARCH 9, 1984

approximately 200 pages - not included

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

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At a Commission meeting on March 26, 1984, Mr. Isa Yin, a member of the NRC staff that investigated and evaluated certain allegations regarding piping and piping supports, informed us that in his opinion the low-power license should not be reinstated because of deficiencies in design, document control and personnel training. An NRC staff peer review group further investigated and evaluated these concerns. The group determined that additional analyses should be performed by the licensee and additional inspections should be performed by the staff. The Advisory Committee on Reactor Safeguards (ACRS), at our request, also evaluated Mr. Yin's concerns and concurred with the staff determination. None of the required actions were found necessary to be completed prior to low-power operation but must be completed prior to exceeding five percent of rated power. Mr. Yin stated at the Commission meeting on April 13 that he agrees with the position.

Finally, you express a concern over an apparent tendency of our staff to assume that the margins of safety established by our criteria need not be adhered to for systems which are not pivotal to safety, and that less precise, ad hoc standards of safety can be applied. The testimony by the staff at the January 24, 1984 hearing relating to margins of safety should not be construed to mean that the staff accepts less than the margins of safety required by the Commission's regulations. The testimony was meant to relate that inspection and review efforts are more heavily focused on those aspects which have the greatest potential for affecting public health and safety.

I hope this letter is responsive to the concerns you raised. In reinstating the low-power license for Diablo Canyon Unit 1, we express our opinion that the health and safety of the public will not be jeopardized by the operation of the facility under these conditions.

Sincerely,

Nunzio J. Palladino
Chairman

Enclosure:
NUREG-0675: Supplement 22 to
Diablo Canyon Safety Evaluation
Report, March 1984

OELD
LChandler
4/ /84

*See previous concurrence.

*DL:LB#3	DL:LB#3	DL:LB#3	DL:AD/L	DL:DIR	NRR	NRR	EDO	
HSchierling/yt	JLee	GWKnighton	TMNovak	DGEisenhut	ECase	HRDenton	WJDircks	
4/ /84	4/ /84	4/ /84	4/ /84	4/ /84	4/23/84	4/ /84	4/24/84	

The Honorable Leon Panetta
United States House of Representatives
Washington, D. C. 20515

Dear Congressman Panetta:

Thank you for your letter of February 8, 1984 regarding the Diablo Canyon Nuclear Power Plant. We appreciate your interest in the licensing and safety of this plant. You have raised the following three issues in your letter: Commission consideration of the decision by the Atomic Safety and Licensing Appeal Board, NRC guidelines for resolving allegations on a priority basis, and NRC staff implementation of safety margins.

I am certain you are aware, that the Commission reinstated on April 13, 1984 the low-power operating license for Diablo Canyon Unit 1. In responding to your concerns I would like to briefly discuss some of the events that preceded our decision. I believe that the manner in which the NRC staff has resolved numerous issues during the past few months and the steps which the Commission has taken prior to its decision are indicative of our position and approach to your concerns as discussed below.

Regarding the first concern, on March 20, 1984 the Appeal Board issued its decision resolving the issues on design quality assurance regarding Diablo Canyon Unit 1 in favor of the Pacific Gas and Electric Company. The decision imposes a condition for the operation of the component cooling water system. We included this condition in our decision for reinstatement of the low-power license and the staff recently amended the Technical Specification accordingly. The Appeal Board decision also required further analysis of jet impingement effects inside containment. The staff is continuing its evaluation of this matter and it will be resolved prior to issuance of a full-power license.

Your second concern is the bases and guidelines the NRC staff applied to determine which allegations must be satisfactorily resolved prior to a Commission decision on low-power operation. The staff provided these guidelines in Supplement 22 to the Safety Evaluation Report (SSER 22, March 1984), a copy of which is enclosed. The underlying concept for authorizing any low-power operation is that fission product generation and build-up at these conditions are only a small fraction of the values assumed in our analysis of the design basis accident.

At this time we have received in excess of 500 allegations. Although many of these are identical or similar we treated them separately because they frequently were submitted by different sources. Our staff has evaluated in sufficient detail all of the allegations by considering the guidelines in SSER 22 and concluded that none of these allegations need a complete resolution prior to reinstatement of the low-power license. Some concerns were identified as requiring a resolution prior to issuance of a full-power license.

At a Commission meeting on March 26, 1984, Mr. Isa Yin, a member of the NRC staff that investigated and evaluated certain allegations regarding piping and piping supports, informed us that in his opinion the low-power license should not be reinstated because of deficiencies in design, document control and personnel training. An NRC staff peer review group further investigated and evaluated these concerns. The group determined that additional analyses should be performed by the licensee and additional inspections should be performed by the staff. The Advisory Committee on Reactor Safeguards (ACRS), at our request, also evaluated Mr. Yin's concerns and concurred with the staff determination. None of the required actions were found necessary to be completed prior to low-power operation but must be completed prior to exceeding five percent of rated power. Mr. Yin stated at the Commission meeting on April 13 that he agrees with the position.

Finally, you express a concern over an apparent tendency of our staff to assume that the margins of safety established by our criteria need not be adhered to for systems which are not pivotal to safety, and that less precise, ad hoc standards of safety can be applied. The testimony by the staff at the January 24, 1984 hearing relating to margins of safety should not be construed to mean that the staff accepts less than the margins of safety required by the Commission's regulations. The testimony was meant to relate that inspection and review efforts are more heavily focused on those aspects which have the greatest potential for affecting public health and safety.

It is important to note that in addition to the margin of safety incorporated in Commission regulations there are additional margins of safety that result from design and fabrication practices employed for nuclear power plants. These additional margins of safety are recognized to ameliorate uncertainty from less than absolute confirmation that the letter of the regulatory requirements have been met in each case. Whereas it is beyond reasonable expectation to assure absolute compliance in each case, we believe that upon completion of the review and inspection program carried out by the NRC staff, the safe design and construction of Diablo Canyon will be assured.

I hope this letter is responsive to the concerns you raised. In reinstating the low-power license for Diablo Canyon Unit 1, we express our opinion that the health and safety of the public will not be jeopardized by the operation of the facility under these conditions.

Sincerely,

Nunzio J. Palladino
Chairman

Enclosure:
NUREG-0675: Supplement 22 to
Diablo Canyon Safety Evaluation
Report, March 1984

OELD
LChandler
4/ /84

DL:LB#3	DL:LB#3	DL:LB#3	DL:AD/L	DL:DIR	NRR	NRR	EDO
HSchierling/yt	JLee	GWKnighotn	TMNovak	DGEisenhut	ECase	HRDenton	WJDircks
4/18/84	4/ /84	4/ /84	4/ /84	4/ /84	4/19/84	4/ /84	4/ /84

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

OFFICE OF THE
CHAIRMAN

The Honorable Leon Panetta
United States House of Representatives
Washington, D. C. 20515

Dear Congressman Panetta:

Thank you for your letter of February 8, 1984 regarding the Diablo Canyon Nuclear Power Plant. We appreciate your interest in the licensing and safety of this plant. You have raised three issues, both at the January 24 hearing and in your letter. I will respond to each of them. As you are aware, the Diablo Plant has two units; my remarks pertain to Unit 1 only since it is the unit presently being considered for reinstatement of the low power license and issuance of a full power license. At this time Unit 1 remains subcritical with hot functional testing and checkout in progress. Commission authorization is required for criticality and low power operation.

The first issue you raised is whether the decision by the Atomic Safety and Licensing Appeal Board (ASLAB) on design quality assurance is requisite to issuance of the full power license by this Commission. On March 20, 1984 the Board issued a decision resolving the issue on design quality assurance regarding Unit 1 in favor of the licensee, subject to a condition for operation of the component cooling water system and for further analysis of jet impingement effects inside containment. The staff is currently preparing a Technical Specification for the first item and is continuing its evaluation of the second. Both conditions will be resolved prior to issuance of a full power license.

As of early March the NRC received and performed an evaluation of approximately 200 allegations and concerns from a variety of sources. In addition, the Government Accountability Project (GAP) has filed with this Commission a petition to defer any decision regarding the granting of a low power license pending the completion of certain recommended actions. The basis for the petition is approximately three hundred allegations regarding the design, construction, operation and management of the Diablo Plant. Many of the allegations already had been included in our allegation resolution effort. We have evaluated all of the above allegations and concluded that their significance does not affect a low power decision.

This leads me to the second issue in your letter; namely, the bases and guidelines which the NRC has applied to determine which allegations must be satisfactorily resolved prior to a Commission decision. As stated in Supplement 22 of our Safety Evaluation Report (SSER 22, March 1984) the underlying concept

for authorizing low power operation is that fission product generation and build-up at low power levels are only a small fraction of the values that were used in our analysis of the design basis accident.

Accordingly, we find that there would be no danger to the health and safety of the public. Furthermore the operation at low power levels affords the opportunity to check out most of the systems and make corrections and modifications as necessary. Other factors that were considered by our staff were the need and practicality of making a possible modification after criticality, prior NRC knowledge, specificity and reasonableness of the allegation, the licensee's awareness and involvement in the issue, and finally, the significance or relevance of the allegation, in particular with respect to low power operation. Taking these factors into consideration the staff identified the following types of allegations and concerns that require resolution prior to criticality:

1. Prior to criticality those allegations or concerns must be resolved which offer specific new information, not previously available to the staff, and which appear to involve a discrepancy between design criteria, design, construction or operation of a safety-related component, system, or structure of such magnitude so as to cause the operability to be drawn into question. In addition, sufficient technical information regarding those allegations or concerns is not presently available to the staff, or programs have not been developed or implemented to assure that regulatory concerns related to reactor safety will be resolved prior to criticality.

2. Prior to criticality those allegations or concerns must be resolved which offer definitive new information, not previously available to the staff, and which indicates a potential, significant deficiency in the licensee's management or quality assurance of safety-related activities. In addition, sufficient technical information regarding those allegations or concerns is not presently available, or programs have not been developed or implemented to assure that regulatory concerns related to reactor safety will be resolved prior to criticality.

In addition, the staff applied a third criterion to determine which allegations or concerns must be resolved prior to exceeding five percent power:

3. Prior to exceeding five percent power those allegations or concerns must be resolved which offer specific new information, not previously available to the staff, and which may reasonably be expected to involve sizeable failures of systems that contain radioactivity or of the ECCS systems. In addition, sufficient technical information regarding these allegations or concerns is not presently available, or programs have not been developed or implemented to assure that regulatory concerns related to reactor safety will be resolved prior to exceeding five percent power.

We have completed an evaluation of each allegation. Based on the evaluation and by taking into consideration these guidelines, we have determined that, of the approximately five hundred allegations, none need to be resolved prior to authorization of criticality and low power operation. The results of our evaluation as of March 9, 1984 are presented in SSER 22.

Finally, you express a concern over an apparent tendency of our staff to assume that the margins of safety established by our criteria need not be adhered to for systems which are not pivotal to safety, and that less precise, ad hoc standards of safety can be applied.

The testimony by the staff relating to margins of safety should not be construed to mean that the staff accepts less than the margins of safety required by the Commission's regulations. The testimony was meant to relate that inspection and review efforts are more heavily focused on those aspects which have the greatest potential for affecting public health and safety.

It is important to note that in addition to the margin of safety incorporated in Commission regulations there are additional margins of safety that result from design and fabrication practices employed for nuclear power plants. These additional margins of safety are recognized to ameliorate uncertainty from less than absolute confirmation that the letter of the regulatory requirements have been met in each case. Whereas it is beyond reasonable expectation to assure absolute compliance in each case, we believe that upon completion of the review and inspection program carried out by the NRC staff, the safe design and construction of Diablo Canyon will be assured.

I hope this letter is responsive to the concerns raised in your letter. Let me assure you again that this Commission will not authorize Diablo Canyon Unit 1 to go critical unless we are satisfied that such operation will not jeopardize the health and safety of the public.

Sincerely,

Nunzio J. Palladino
Chairman

DL:LB-3	DL	ONRR	EDO
HSchierling	DGEisenhut	HDenton	WJDircks
4/12/84	4/12/84	4/12/84	4/ /84

* U. S. GOVERNMENT PRINTING OFFICE: 1980-315-901

FROM:	ACTION CONTROL	DATES	CONTROL NO.
Rep. Leon E. Panetta	COMPL DEADLINE	~~3/7/84~~ 3/15/84	14143
	INTERIM REPLY	5/Palladino 6/19/84	DATE OF DOCUMENT 2/8/84
TO: Chairman Palladino	FINAL REPLY		PREPARE FOR SIGNATURE OF: ☒ CHAIRMAN ☐ EXECUTIVE DIRECTOR OTHER
	FILE LOCATION		

DESCRIPTION ☒ LETTER ☐ MEMO ☐ REPORT ☐ OTHER

Request provide guidelines governing the evaluation of allegations re construction QA at Diablo Canyon

SPECIAL INSTRUCTIONS OR REMARKS

PRIORITY

ASSIGNED TO	DATE
~~Martins RF~~	2/27/84
Denton NRR	
Eisenhut	2/28/84
Novak	

INFORMATION ROUTING

Dircks
Roe
Rehm
Stello
Denton
DeYoung
GCunningham
Case/Denton
1. PPAS
2. Spets
3. Mattson
4. Vollmer
5. Thompson
6. Grace
7. Snyder

SECY-84-0225

NRC FORM 232 (6-80)

EXECUTIVE DIRECTOR FOR OPERATIONS
PRINCIPAL CORRESPONDENCE CONTROL

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CORRESPONDENCE CONTROL TICKET Rep. Leon Panetta

NUMBER: 84-0225 LOGGING DATE: 2/27/84

OFFICE OF THE SECRETARY

ACTION OFFICE: EDO

AUTHOR: Rep. Leon Panetta

AFFILIATION:

LETTER DATE: 2/8/84 FILE CODE:

ADDRESSEE: Palladino

SUBJECT: Request that Commission provide guidelines governing the evaluation of allegations regarding construction QA at Diablo Canyon

ACTION: Chairman's Signature and Commission Review...
Date due Comm: March 7

DISTRIBUTION: RF, Docket, OCA to Ack

Rec'd Off. EDO
Date 2-27-84
Time 4 pm

SPECIAL HANDLING: None

SIGNATURE DATE:

FOR THE COMMISSION: Van

LEON E. PANETTA
16TH DISTRICT, CALIFORNIA

COMMITTEES:
BUDGET
CHAIRMAN
TASK FORCE
ON BUDGET PROCESS
AGRICULTURE
CHAIRMAN
SUBCOMMITTEE ON DOMESTIC
MARKETING, CONSUMER RELATIONS,
AND NUTRITION
HOUSE ADMINISTRATION
(ON LEAVE)

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Congress of the United States
House of Representatives
Washington, D.C. 20515

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(805) 772-2035
SALINAS, CALIFORNIA
(408) 424-2229
SANTA CRUZ, CALIFORNIA
(408) 429-1876

February 8, 1984

Mr. Nunzio J. Palladino, Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Palladino:

I am writing to thank the Commission for its contribution to a recent hearing considering issues relative to licensing of the Diablo Canyon nuclear power plant, and to express my continued interest in licensing and safety of the plant.

At the January 24 hearing, the Commission provided substantial reassurances to the Energy and the Environment Subcommittee in several respects. Chief among those reassurances to receive my support is the Commission's view that design quality assurance issues under review by the Atomic Safety Licensing Appeal Board may be fundamental to adequacy in the design verification process at the plant. Consistent with this view, I anticipate that consideration of a full-power license for the plant should occur after the Appeal Board has concluded its review of design QA issues under appeal, and after the Commission has had the opportunity to review the Board's decision in this regard.

In addition, I welcome the formation by Commission staff of a coordinated, systematic program to evaluate the numerous allegations which have been raised regarding the adequacy of quality assurance and construction efforts at the Diablo plant.

In general, the NRC's efforts to ensure the safety of Diablo are commendable. However, the January 24 hearing left unresolved several issues which I would like to bring to the Commission's attention.

In order to ensure that evaluation of allegations regarding construction quality assurance at the plant is both thorough and applicable to a licensing decision, I recommend that -- prior to a Commission decision regarding licensing of the plant for post-criticality testing and full-power testing -- the Commission provide guidelines governing

the evaluation of those allegations. I recommend that those guidelines ensure that staff: a.) provide particular attention to both prospective and historic implications of quality assurance deficiencies; b.) evaluate specific findings and patterns which develop from those specific findings, and; c.) ensure that determinations regarding both regulatory compliance and safety significance are made during resolution of claims.

In addition, I remain concerned over an apparent tendency of engineering and other staff in quality assurance programs at Diablo to assume that wide margins of safety established by Commission construction criteria need not be adhered to in systems which -- in the staff's view -- are not pivotal to safety. This practice was described in testimony given by Commission staff at the January 24 hearing. I remain concerned by the implications of such a practice, which supplants the Commission's established standards of regulatory compliance with a less precise, ad hoc standard of safety.

In establishing the NRC, Congress placed in the Commission's hands the responsibility to ensure the safe design and construction of nuclear facilities. Now, as then, I look to the Commission to ensure compliance with its procedures in an effort to ensure the safety of those who live and work near licensed nuclear power facilities. I commend the Commission's successful efforts to achieve these ends, but exhort it to employ the full range of its abilities to ensure the safety and compliance of the Diablo Canyon plant with current regulations.

Thank you for your consideration of this matter. I look forward to your response.

Sincerely,

LEON E. PANETTA
Member of Congress

LEP:mcd