



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

April 19, 1984

MEMORANDUM FOR: Jesse Ebersole, Chairman
Advisory Committee on Reactor Safeguards

FROM: Nunzio J. Palladino *NJP*

SUBJECT: REACTOR OPERATOR EXPERIENCE

During a discussion on April 17, 1984 with a member of the ACRS, I was informed that several members of the ACRS have concerns about the lack of experience among operators of some of the nuclear power plants scheduled to come on line in the near future. It was pointed out that while those who are concerned have no quick fix, they did feel that the situation should not persist far into the future. If there exists such a concern on the part of the full ACRS, I believe it should be addressed by the Committee and the Committee's advice on steps to remedy this concern should be provided to the Commission.

cc: Commissioner Gilinsky
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
Ray Fraley
OGC
OPE
EDO
SECY



OFFICE OF THE
COMMISSIONER

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

10-275/323

April 9, 1984

50-322

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MEMORANDUM FOR SAMUEL J. CHILK, SECRETARY

Please send the attached memorandum from the General Counsel on "Licensed Reactor Operator Examinations" to the parties to the Diablo Canyon and Shoreham operating license proceedings. I would also like this memorandum to be sent to the parties in the other pending operating license cases, as well as to the applicants in uncontested operating license cases.

Victor Gilinsky

Attachment:
4/6/84 OGC Memo

cc: Chairman Palladino
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
OGC

84-110-1169

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

April 6, 1984

'84 APR -9 P2:15

MEMORANDUM FOR: Commissioner Gilinsky
FROM: James A. Fitzgerald *JAF*
Assistant General Counsel
SUBJECT: LICENSED REACTOR OPERATOR EXAMINATIONS

During the March 30, 1984 Commission briefing on a full-power operating license for WPPSS-2, you raised the question of whether the staff's interpretation of 10 CFR § 55.25(b) is consistent with the terms of that regulation.¹ Both during the briefing and in a letter dated April 3, 1984, you sought the views of the General Counsel. The staff's interpretation as stated in NUREG-0094, in our view, appears to contradict the plain meaning of the regulation.

10 CFR § 55.25(b), entitled "Administration of operating test prior to initial criticality," reads:

The Commission may administer a simulated operating test to an applicant for a license to operate a reactor prior to its initial criticality if a written request by an authorized representative of the facility licensee is sufficient for the Commission to find that:

(b) The applicant has had extensive actual operating experience at a comparable reactor.

In 1976 the Operator Licensing Branch, NRR, issued NUREG-0094, an NRC licensing guide entitled "A Guide for the Licensing of Facility Operators, Including Senior Operators." This guide was designed to revise and replace WASH 1094, the AEC licensing guide. Section XI of NUREG-0094, entitled "Administration of Operating Test Prior to Initial Criticality," defines what is meant in § 55.25(b) by the term "extensive actual operating experience at a comparable reactor." A June 28, 1976 letter from Ben C. Rusche, Director of NRR, to the Commissioners indicates that one of

¹Tr. 43-45.

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X41493

44-175

the revisions made was to define "extensive actual operating experience" to include "participation in training programs that utilize nuclear power plant simulators."²

Commissioner Gilinsky pointed out during the March 30, 1984 Commission briefing that this interpretation of § 55.25(b) seems to be inconsistent with the plain meaning of the regulation, which calls for actual, not simulator, operating experience.³ Mr. Thompson of NRR explained that the staff had used the NUREG-0094 guidelines since their promulgation, and considered simulator experience adequate to ensure safe plant operation.

A brief review of the legislative history of § 55.25(b) yields nothing that would contradict the plain meaning of the regulation. The Statement of Consideration for the promulgation of § 55.25 states that § 55.25 was added to Part 55 to provide for the administration of an operating test "provided the conditions stated in the section are met." 26 Fed. Reg. 9654 (Oct. 12, 1961). The condition stated in § 55.25(b) is "actual operating experience" (emphasis added). No provision is made for simulator experience, equivalent experience, or comparable experience.

A provision similar to § 55.25(b) is contained in § 55.24(a). Under that section, the "extensive actual operating experience," within two years of application, can contribute to the basis for waiver of any or all of the written examinations and operating test. It is interesting to note that when read in light of Section X of NUREG-0094 and § 55.24(b) this phraseology contemplates hands-on operating experience rather than some substitute.

cc: Chairman Palladino
 Commissioner Roberts
 Commissioner Asselstine
 Commissioner Bernthal
 SECY
 OPE
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²SECY-76-341, June 28, 1976, Enclosure 1.

³Tr. 43-45.

⁴Tr. 44-45.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED

COMMISSIONERS:

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Nunzio J. Palladino, Chairman
Victor Gilinsky
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal

SELF-INSPECTION
TESTING & SERVICE
BRANCH

SERVED APR 13 1984

In the Matter of

PACIFIC GAS AND ELECTRIC COMPANY,

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

Docket Nos. 50-275 OL
50-323 OL

MEMORANDUM AND ORDER
(CLI-84-5)

This decision completes the Nuclear Regulatory Commission's ("NRC" or "Commission") reinstatement of Pacific Gas and Electric Company's ("PG&E" or "licensee") Facility Operating license No. DPR-76 ("low-power license") to conduct low-power tests (at up to 5% of rated power) at the Diablo Canyon Nuclear Power Plant, Unit 1 ("Diablo Canyon"). The events leading up to the Commission's suspension of this license and subsequent steps to reinstate the license in part have been described in several prior orders of the Commission.¹ Accordingly, this order focuses on events which have

¹The low-power license was issued on September 22, 1981. See CLI-81-22, 14 NRC 598 (1981). It was suspended on November 19, 1981. See, CLI-81-30, 14 NRC 950 (1981). Following substantial review and reanalysis of the design and construction of Diablo Canyon, and public meetings at which all interested parties participated, the Commission reinstated the low-power license in part to authorize PG&E to load fuel and conduct pre-criticality tests (operational modes 6 and 5).

[Footnote Continued]

occurred since the Commission's last order and refers back to previous events only as necessary.

Safety Review

A Commission condition for reinstatement of Diablo Canyon's low-power license was the successful completion of an Independent Design Verification Program (IDVP). CLI-81-30, 14 NRC 950 (1981).² The IDVP was conducted by organizations and individuals not associated with PG&E and was managed by Teledyne Engineering Services (TES). PG&E conducted a separate design verification effort called the internal technical program (ITP) which was performed by PG&E's Diablo Canyon Project ("DCP"), a joint organization of PG&E and Bechtel. Then, the NRC staff, with the help of its consultant, Brookhaven National Laboratory, conducted its own analysis.

[Footnote Continued]

CLI-83-27, 18 NRC ____ (1983). Subsequently, the U.S. Court of Appeals for the District of Columbia Circuit denied a motion to stay the Commission's authorization to PG&E. On January 16, 1984, the Commission denied Joint Intervenor's motion for a stay of fuel loading and pre-criticality testing at Diablo Canyon finding that these activities did not present significant health and safety risks and would not prejudice subsequent Commission decisions or foreclose modifications, if necessary, of the plant. CLI-84-1, 19 NRC ____ (1984). On January 25, 1984, the Commission reinstated another part of PG&E's low-power license by authorizing precritical hot system testing (operational modes 4 and 3). As a separate matter, the Commission declined to review the Atomic Safety and Licensing Appeal Board's decision in ALAB-728, 17 NRC 777 (1983) which affirmed a decision by the Atomic Safety and Licensing Board on all issues other than quality assurance related to PG&E's application for a license to load fuel and conduct low-power testing.

²The Commission's Order required an IDVP of seismic, service-related contract activities prior to 1978. In addition, the NRC staff required an IDVP of non-seismic, service-related contract activities, PG&E internal design activities and post-1978 seismic service-related contract activities. In addition to design verification, the IDVP also reviewed some construction activities.

The scope of the IDVP and ITP, and the relation between them, is explained in detail in ALAB-763. 19 NRC ____ (1984). Essentially all of Diablo Canyon's safety-related seismic design was reviewed: the ITP reanalyzed all of the seismic design for safety-related structures, systems and components, while the IDVP oversaw and verified selected portions of the work in accordance with the program approved by the Commission. The review of non-seismic safety-related design was not as comprehensive. The IDVP reviewed three safety-related systems and two areas of safety-related analysis applicable to many other systems. Items of concern identified by the IDVP as potentially generic were addressed by the ITP for all systems designed by PG&E. In turn, the ITP verification work was sampled by the IDVP and the results reported in an Interim Technical Report (ITR). The ITP independently reviewed other non-seismic systems. As a result of this interaction between the ITP and IDVP, the IDVP obtained a broad and comprehensive understanding of the non-seismic design of Diablo Canyon.

The IDVP was completed in October 1983; PG&E's ITP is still ongoing. The NRC staff's review of the IDVP Final Report is contained in Supplements 18, 19 and 20 to the Safety Evaluation Report (SER) for Diablo Canyon, Unit 1. Supplements 18 and 19, PG&E's ITP, and physical modifications to the plant were the basis of the staff's recommendation of the partial reinstatement of PG&E's low-power license to load fuel and perform pre-criticality testing at Diablo Canyon. CLI-83-27, 18 NRC ____ (1983). At that time there were still several open items and follow up items which the staff believed required resolution prior to reinstatement of the rest of the low-power license.

The staff has updated its progress on open items in Supplement 20 to the Safety Evaluation Report (SSER 20). The staff considered information

in the seismic monthly reports from the IDVP and PG&E, the IDVP Final Report, the PG&E final reports, and the Interim Technical Reports.³ SSER 20 presents the staff's safety evaluation of open items and follow up items that in the staff's view, must be satisfactorily resolved prior to the Commission's reinstatement of PG&E's authority to achieve criticality and perform low-power testing, i.e. reinstatement of the low-power license for Diablo Canyon, Unit 1. SSER 20 reports that many of the open items and follow up items previously identified in SSERs 18 and 19 have been resolved. On March 27, 1984, the NRC's Director of Licensing reported that in his view, all open and follow up items identified in SSER 20 had been resolved satisfactorily for reinstatement of the low-power license for Diablo Canyon, Unit 1. He also stated that: (1) he knew of no new information since the completion of SSER 20 which would affect the staff's conclusions or judgments in SSER 20; and (2) that any other issues not addressed in SSER's 18, 19, and 20 had been satisfactorily addressed for the purposes of low power operation.

The Commission also heard from Mr. Isa Yin, an NRC inspector at Diablo Canyon. Mr. Yin reported that he had found inadequate compliance with the quality assurance program for designing supports for small bore and large bore piping. He also stated that reinspection following modification of the pipe suspensions would be rendered more difficult by the environmental conditions in the plant after operation at low-power. Accordingly, he requested that the Commission defer granting a low power license until PG&E

³The Interim Technical Reports (ITR) are called interim because they were issued before completion of the IDVP. The ITRs document the completion of technical issues.

had remedied the deficiencies in pipe supporting systems and those changes had been reinspected by the NRC.

The Commission voted to defer reinstatement of the low power license for Diablo Canyon until the disparity between Mr. Yin's views and those of the rest of the technical staff had been considered by the Advisory Committee on Reactor Safeguards ("ACRS") - a statutorily created advisory committee comprised of experts in various disciplines including nuclear engineering, nuclear physics, and radiation health physics.

The ACRS met in public session on April 6, 1984 and heard from Mr. Yin, other members of the NRC staff, and Mr. Stokes, a previous employee at Diablo Canyon who had made allegations regarding the adequacy of the quality assurance program for the design of supports for small bore pipes. Mr. Yin had found that some of Mr. Stokes' allegations were correct.

The NRC staff informed the ACRS that, on March 29, 1984 the NRC had convened a peer review panel of technical experts to review Mr. Yin's concerns. The panel met with Mr. Yin, and later with representatives of PG&E and some of the contractors involved in the IDVP. The peer review panel also visited Diablo Canyon to examine in detail some of the specific items identified as deficient by Mr. Yin. After the visit, the peer review panel met with Mr. Stokes, and somewhat later met again with Mr. Yin to discuss the panel's proposed findings. The panel concluded that Mr. Yin's concerns did not warrant delaying low-power operation of Diablo Canyon, but did require resolution prior to going to full-power.

Mr. Yin also addressed the ACRS. He stated that "while several reverification and corrective action programs should be completed by PG&E prior to NRC issuance of a full power operation license, there will be no apparent risk to the public health and safety to allow the reactor testing

up to five percent power at the present." On questioning by members of the ACRS, Mr. Yin reiterated his position in spite of his acknowledgement of some residual differences with the rest of the NRC staff.

On April 9, 1984 the ACRS reported on its consideration of Mr. Yin's concerns. Based on the presentations by Mr. Yin and other members of the NRC staff and supporting documentary material, the ACRS found:

We agree that it is acceptable to permit low power operation at this time. We believe that such operation will not compromise corrective actions that may be required.

In view of the statements by the ACRS and Mr. Yin, the Commission concludes that the concerns previously expressed by Mr. Yin have been resolved satisfactorily and do not warrant deferring the reinstatement of the low-power operating license for Diablo Canyon.

Quality Assurance

The Joint Intervenors and the Governor of California raised issues related to design quality assurance and to construction quality assurance at Diablo Canyon. Their motion to reopen the record on the design quality assurance (DQA) program at Diablo Canyon was granted, and resulted in an adjudicatory proceeding before the Atomic Safety and Licensing Appeal Board at which the adequacy of the IDVP was a central issue. On March 20, 1984, the Appeal Board issued a 122-page decision in which it found:

[T]he scope and execution of the applicant's verification program have been sufficient to establish that Diablo Canyon Unit 1 design adequately meets its licensing criteria. The applicant's verification efforts provide adequate confidence that the Unit 1 safety-related structures, systems and components are designed to perform satisfactorily in service and that any significant design deficiencies in that facility resulting from defects in the applicant's design quality assurance program have been remedied. Accordingly, we conclude that there is reasonable assurance that the facility can be operated without endangering the health and safety of the public.

ALAB-763, slip op. at 101.

Additional motions filed by the Joint Intervenors and Governor of California to reopen the record on DQA are still pending before the Appeal Board.

The Joint Intervenors and the Governor of California also sought reopening of the record on construction quality assurance (CQA). That motion was denied by the Appeal Board in ALAB-756, 19 NRC ____ (Dec. 19, 1983). Petitions for review of that decision are now pending before the Commission, and petitions to reopen the record are also pending before the Appeal Board.

In view of the pendency of the petitions for review of ALAB-756 (on construction QA), and of the fact that the time for filing petitions for review of ALAB-763 (on design QA) has not elapsed, we express no opinion as to the correctness of the two Appeal Board decisions. Nevertheless, we consider it worthy of note that there is nothing in the Appeal Board's decisions on construction quality assurance or design quality assurance to suggest that PG&E's low-power license should not be reinstated.

Allegations

Since 1982, the NRC staff has received numerous allegations and concerns about the design, construction, and operation of the Diablo Canyon Nuclear Power Plant (Diablo Canyon) and the management of these activities by Pacific Gas and Electric Company (PG&E).⁴ As the IDVP neared completion

⁴In early 1982, the staff received allegations regarding the design and operation of the component cooling water system (CCWS) for Diablo
[Footnote Continued]

and the target date for a Commission decision on reinstatement of the license approached, the flow of allegations became a deluge and the NRC staff, with Commission concurrence, established a special Diablo Canyon Allegation Management Program ("DCAMP") to pursue the allegations and concerns to resolution.

The DCAMP is described in Supplement 21 to the Safety Evaluation Report for Diablo Canyon (SSER 21). The procedures for handling allegations under DCAMP included confirmation of the allegation by contacting the alleged whenever possible, site inspections of construction or documentation, independent measurements and evaluations where appropriate, technical reviews, interviews with site personnel, public meetings on significant technical issues, discussions between the alleged and staff on staff's findings and reports to the Commission. So far, allegation management has involved more than 40 members of the NRC technical staff and contractor personnel and required 18,000 person hours. The staff's review of an allegation was not limited to the allegation itself, but included all necessary related issues.

[Footnote Continued]

Canyon, Unit 1. The staff's evaluation of the allegations is described in Supplement No. 16 to the Safety Evaluation Report (SSER 16). On the basis of that evaluation, the staff concluded that the CCWS satisfied most design requirements; that the only deviation was acceptable on the basis of PG&E's satisfactory demonstration of design capability in this area, and that the allegations regarding the CCWS had no generic implications. In ALAB-763, the Appeal Board instructed the Director, Nuclear Reactor Regulation, to ensure that PG&E's proposed technical specification on CCWS is incorporated into the plant technical specifications before permitting operation. The order of reinstatement of PG&E's low-power license is contingent on the Director's completion of that action.

On January 4, 1984, the staff reported to the Commission on the investigation into 103 allegations using the procedure described above. SECY-84-3, SSER 21. However, additional allegations continued to be received and the DCAMP has attempted to keep up with them. Staff provided an updated written review of the allegations on February 6, 1984 (SECY-84-61) and reported on them to the Commission in public meetings held on January 23, February 10, and March 19, 1984. By mid-March, the total number of allegations was approximately 400. On March 20, 1984, staff issued SSER 22, which addressed 219 of the allegations, including the ones addressed previously. Staff reported that it had examined 188 allegations in detail and determined that 31 other allegations did not warrant detailed review because they raised issues similar to those already considered or were not related to significant safety issues.

In mid-March, the Commission gave public notice that it hoped to be able to make a decision on reinstatement of the license for criticality and low power operation on March 26, 1984. In the weeks before March 26, scores of new allegations were filed. One group, the Government Accountability Project, filed allegations that were received by the Commission only hours before the scheduled meeting. Approximately 500 allegations have now been filed. Needless to say, this flood of last-minute alleged new information, years after the adjudicatory proceedings began, has strained the Commission's resources.

As noted above the first two hundred of the recent allegations have been reviewed in detail under DCAMP. No license, not even a low power license, can be issued without adequate protection to the public health and safety. However, special considerations apply to low power operation. Most importantly, the possible consequences of an accident during low-power

operation are limited to a very small fraction of those possible at full power. Low-power operation would generate between one-hundredth-and-one tenth of the radioactive fission products which would be generated by full power operation. Thus, any consequences of accident would be significantly less than those determined by the safety evaluation for Diablo Canyon. Accident consequences would be further reduced by the lower quantity and rate of production of decay heat produced at low-power as compared to that produced at full power. However, the energy required to damage a reactor, the capacity of the heat removal systems, and safety features are not reduced by low power operation. Therefore, accidents involving failures of these systems at low-power operation would evolve over longer periods than at full power operation and could be contained by equipment operating at only a few percent of capacity.

With the above in mind, all of the allegations have been reviewed under one basic safety criterion: is there significant new information which suggests that some safety-related structure, system or component necessary for safe low power operation will not perform its safety function, or that there are such weaknesses in licensee's management or quality assurance that plant safety is called into serious question. For the first two hundred allegations, the results of the review are documented in SSER 21 and the transcripts of the public Commission meetings in January, February, and March. For the approximately 300 more recent allegations, the Commission was faced with a choice of decision delay, while the review could be carefully documented, or reliance on a preliminary review and staff expert judgment without the more detailed documentation. The Commission has deliberately chosen the latter course. There is every reason to

believe that more allegations will be filed and delay to provide written documentation will lead to paralysis in Commission decisionmaking.

All of the allegations received on or before April 13, 1984, have been reviewed under the criterion specified above and those necessary to be resolved prior to license reinstatement have been resolved. As a result, none of these allegations warrant a delay in the reinstatement of the low-power license. Work under DCAMP will continue, both to document the reviews completed to date and to address those matters that need to be resolved prior to licensing at higher power levels.

Operator Experience

The Commission has also considered the circumstance that the regular operating staff for Diablo Canyon has a limited amount of experience with operating similar facilities. The Commission was briefed on the issue by PG&E as part of its comments at the public meeting of February 10, 1984. PG&E has 43 holders of senior operator licenses and 16 holders of reactor operator licenses at Diablo canyon. A typical licensee has successfully completed: (1) a 30-month program on power plant fundamentals, equipment, systems, radiation protection and administrative controls including time on-shift at the facility; and (2) an approximately year-long licensing program. Several license holders have participated in pre-operational testing programs, hot functional testing programs, on-going testing, maintenance, surveillance and modification programs. Licensed operators have also each had from 200 hours to 300 hours of hands-on simulator training. However, because the operators have not had actual plant operational experience, additional experienced personnel will be on hand to assist with startup operations. This extensive training of PG&E's

operators and PG&E's commitment to provide additional trained personnel during start-up have led the Commission to find that PG&E has an adequate operating staff for Diablo Canyon.⁵

Seismic License Condition

The Commission has also considered recent developments regarding the characterization of the Hosgri Fault. At the public meeting of March 26, 1984, the staff reported that it had received a preprint of an article by certain petroleum geologists who have used previously unavailable information developed during petroleum exploration to determine that Hosgri Fault is a thrust fault and not a strike/slip fault as previously believed. In view of this development, the staff proposed that PG&E should conduct further seismic and geologic studies of the Hosgri Fault. Mr. Devine, a geologist with the United States Geological Survey also discussed the new

⁵The Commission notes that a literal reading of 10 CFR 55.25(b), which was adopted in 1963, would have required candidates for operator license examinations, at facilities that have yet to go critical, to have had "extensive actual operational experience" before taking the operator license examination. Since 1967, the NRC has taken the position, in publicly available documents, that completion of NRC-approved training that utilizes simulators can, together with other nuclear reactor activities, constitute adequate experience. Operators at Diablo Canyon and four other plants were licensed on this basis. Because this long-standing interpretation of the rule does not match the literal language of the rule, although it satisfies the rule's purpose and does not diminish safety, the Commission will shortly initiate a rulemaking proceeding to conform the language of the rule to this long-standing practice. In the interim, the Commission sees no reason to revoke or suspend existing operator licenses, including those held by the operators at Diablo Canyon. The sophistication of current simulator training provides a suitable basis for operator licensing, and similar training in lieu of operational experience constitutes no diminution of safety. Under these circumstances, the Commission finds no reason to grant Joint Intervenor's April 10, 1984 motion for a stay based on the operator license issue.

findings with the Commission. In Mr. Devine's view, this new information was not startling but more in the nature of a refinement in the understanding of the overall faulting pattern in the region around Diablo Canyon. Mr. Devine supported the NRC staff's proposals for further study. He also stated that, in his view, the new report did not warrant any change in the magnitude of the Safe Shutdown Earthquake for Diablo Canyon.

The Commission has determined that this new information does not affect its low-power decision. There is no indication that the new information undercuts the seismic design basis for Diablo Canyon. However, the Commission has asked the ACRS to review the new information prior to any full power decision and to comment on a draft license condition which would require PG&E to reassess by 1988 the seismic design basis for Diablo Canyon.

Additional Matters

The staff has denied Joint Intervenor's petition for enforcement action under 10 C.F.R. 2.206. DD 84-8, 19 NRC ____ (March 26, 1984). Joint Intervenor's contended that PG&E's failure to provide to the Commission a 1977 audit performed by Nuclear Services Corporation on the quality assurance program by Pullman Power Products, a PG&E contractor, required continued suspension of the low-power license. The Director, Inspection and Enforcement found that PG&E made a material false statement by failing in 1978 to provide the audit to the Licensing Board considering quality assurance. However, the Director also found that under the circumstances, the material false statement was a violation of the lowest severity level and, as such, warranted only a Notice of Violation. That Director's decision is still pending before the Commission for its determination of

whether to review it. 10 CFR 2.206(c)(1). Under these circumstances, the Commission expresses no opinion on the correctness of the Director's decision. However, the Commission finds noteworthy that nothing in the decision suggests that PG&E's low-power license should not be reinstated.

On April 12, 1984, the Government Accountability Project (GAP) petitioned the Commission pursuant to 10 CFR 2.206 to direct the Office of Inspector and Auditor (OIA) to initiate an investigation into alleged false statements by PG&E and the NRC staff regarding the resolution of allegations of deficiencies in design and construction quality assurance at Diablo Canyon. GAP also requested an opportunity to address the Commission on April 13, 1984 on the alleged false statements and suggested that the Commission defer any decision on reinstituting PG&E's low-power license for Diablo Canyon until this matter is resolved. In addition, GAP requested the Commission to direct the Office of Investigations (OI) to release transcripts of interviews with allegeders to the Board considering design and construction quality assurance.

GAP's request was supported by affidavits from Mr. Steven Lockert and Mr. Charles Stokes. Both have provided allegations to the Commission on several previous occasions; most recently, Mr. Stokes addressed the Advisory Committee on Reactor Safeguards (ACRS). Mr. Lockert's affidavit refers to some welds, made in 1974 and corrected in 1977 for which, in some instances, documentation was not provided until 1982. Deficiencies in welds and the quality assurance program for documenting repairs to welds have been the subject of many other allegations investigated by the staff. Similarly, Mr. Stokes' affidavit contains allegations of the type already extensively considered by the staff. Mr. Stokes' affidavit also draws

legal conclusions based on his opinions of various actions taken at Diablo Canyon.

For the most part, GAP's allegations of false statements by the NRC staff and PG&E are based on its own interpretation of the implications of various allegations regarding conditions at Diablo Canyon. Others of GAP's allegations are based on GAP's differences of opinion with various statements by members of the NRC staff. To the extent that GAP relies on statements by Mr. Yin, GAP's conclusions are not supported by Mr. Yin's statements to the ACRS and a Member of Congress. As for staff's implementation of its policy of reinterviewing allegeders, the Commission notes that staff's policy was announced before GAP imposed additional procedural burdens on access to allegeders. Finally, regarding statements addressing compliance with 10 CFR Part 50, Appendix B, that issue is pending before the Commission in the context of its review of ALAB-756 and ALAB-763. Because those reviews are still pending, the Commission expresses no opinion on this issue. However, the Commission notes that the Appeal Board found that PG&E had complied with Appendix B.

Under these circumstances, the Commission finds that nothing in GAP's recent submittal requires the Commission to delay consideration of reinstatement of PG&E's low-power license. However, the Commission has asked its Office of Investigations to consider GAP's request for the protected release of transcripts of interviews to the Board and has requested its Office of Inspector and Auditor to review the petition and to take whatever actions it deems necessary.

Motion For Stay

Joint Intervenors have requested the Commission to stay the effectiveness of any reinstatement of PG&E's authority to operate Diablo Canyon Unit 1 at low-power until the completion of all pending administrative matters and the conclusion of any judicial review of the Commission's decisions underlying such reinstatement of authority. In the alternative, Joint Intervenors have requested the Commission to stay for several days any reinstatement of PG&E's low-power license to permit them to apply to the United States Court of Appeals for the District of Columbia Circuit for an emergency stay pending appeal. Joint Intervenors base their request on three factors: (1) the issues raised in their stay request of October 31, 1983; (2) pending allegations of design and construction deficiencies at Diablo Canyon and motions based on those allegations; and (3) an affidavit by Dr. Michio Kaku. The Commission believes there is no warrant to stay the effectiveness of the reinstatement of PG&E's low-power license until all administrative and legal appeals are exhausted. However, the Commission will delay the effectiveness of this decision until noon, April 19, 1984 (Eastern Time) to give Joint Intervenors an opportunity to read the decision and determine whether to pursue judicial review.

Nothing has happened since October 31, 1983, which would cause the Commission to change its mind about Joint Intervenor's previous motion for a stay. As for recent developments based on allegations, the progress on resolving these allegations indicates that they do not support a motion for stay. Finally, the generic nature of Dr. Kaku's affidavit reveals a lack of specific knowledge of the Diablo Canyon plant and, in particular, the activities to be undertaken during start-up and low-power testing. The affidavit does not describe any specific aspect of low-power operation of

Diablo Canyon which would create an undue risk to public health and safety or to the plant personnel. Rather, the affidavit is based on general and well-known considerations, some of which are irrelevant to Diablo Canyon, and hypothetical accident scenarios without any indication of their likelihood of occurrence during low-power operation at Diablo Canyon. It is well-established that speculation about a nuclear accident does not, as a matter of law, constitute the imminent, irreparable injury required for staying a licensing decision. State of New York v. NRC, 550 F.2d 745, 756-57 (2d Cir. 1977); Virginia Sunshine Alliance v. Hendrie, 477 F. Supp. 68, 70 (D.D.C. 1979). Under these circumstances, the Commission sees nothing in Dr. Kaku's affidavit which contradicts the extensive technical reviews of Diablo Canyon. For these reasons, the Commission denies Joint Intervenor request for a stay.

Conclusion

The Commission has determined that the concerns which led it to suspend PG&E's low-power license have been resolved to the point where that license can now be reinstated in its entirety.⁶

Commissioner Gilinsky dissents from this order. The separate views of Chairman Palladino and Commissioners Gilinsky and Bernthal are attached.

It is so ORDERED.



For the Commission

Samuel J. Chalk
 SAMUEL J. CHALK
 Secretary of the Commission

Dated at Washington, DC,

this 13th day of April, 1984.

⁶Still pending before the Commission is PG&E's request for an extension of the expiration date of the original low-power license. As the Commission has previously stated, PG&E's extension request is subsumed within the proceeding on PG&E's application for a full-power operating license. The staff safety evaluations, testimony and views of the parties, and adjudicatory proceedings that have been held in this proceeding are all applicable, to the extent relevant, to PG&E's extension request. The Commission finds that the previous adjudicatory hearings that have been held satisfy the hearing requests that have been filed with regard to PG&E's extension request and that, because PG&E's extension request does not raise any health, safety or environmental issues that have not been resolved previously, that extension request should be granted.

Chairman Palladino's Separate Views

I believe that it is important to put in context Commissioner Gilinsky's statements about reactor operator experience.

The Commission did not "disregard a vital safeguard"; it has simply applied the same standards to Diablo Canyon that have been applied to other commercial power plants over the last 17 years. I see no reason to impose different standards on this plant than on the others which have preceded it.

Each applicant for a reactor license is required to develop and implement an NRC-approved training program for its reactor operator candidates. It has been NRC practice to accept satisfactory completion of an NRC-approved training program as fulfilling the prerequisite for an operator candidate to take an NRC reactor operator examination.

As pointed out by the staff in SECY 84-152:

"There are three phases of an NRC approved cold license training program. Phase I includes basic fundamentals and operation of a research reactor during which the trainee performs at least 10 reactor startups. The time normally required to cover Phase I is 12 weeks. Phase II includes participatory observation of the day-to-day operation of a

nuclear power plant. This observation includes normal operation, surveillance testing and radiation procedures. Also included in this phase is the operation of a nuclear power plant simulator similar in design to the facility for which the trainee will be seeking a license. The duration of Phase II training varies from four to six months. Phase III is the plant specific design lecture series which covers the features of trainee's facility and normally take six weeks to complete."

Reactor simulators have become sophisticated devices which provide the opportunity to expose a reactor operator candidate to a variety of plant operating conditions which is not generally possible on an actual plant.

It is also important to note that actual operating experience has a number of components in which reactor operators are involved. These include such activities as learning about systems during construction -- a particularly good time to learn about the plant.

I also want to comment on Commissioner Gilinsky's statement that "advisors with questionable qualifications may be positively dangerous." I categorically reject the implication that advisors at Diablo Canyon, or at any plant for that matter, are "positively dangerous." Each advisor has previously had an operator license

at another commercial nuclear power plant and has undergone training and examination on specifics of the plant at which they are to advise. The debate that took place relative to Diablo Canyon was not about questionable qualifications. Rather, it was about whether the NRC itself administers the examinations for these advisors or whether the NRC audits the examinations administered by the utility. The Commission has decided on the latter course of action, but neither course of action results in advisors who are positively dangerous.

4/13/84

ADDITIONAL SEPARATE VIEW OF COMMISSIONER GILINSKY
ON REINSTATEMENT OF LOW-POWER OPERATING LICENSE
AT DIABLO CANYON

Attached are the separate views which I distributed two weeks ago when the Commission last discussed the reinstatement of the Diablo Canyon low power license. At that time I withheld approval because of the lack of actual operating experience on the plant's operating crews and the absence of adequate compensating measures. The situation has not changed since then. None of the licensed operators at the plant has actual operating experience at a comparable commercial reactor.

The Commission has decided to require that the operators be backed up by experienced advisors. The critical difference between myself and the other Commissioners is over how to certify the advisors' knowledge of the plant. Advisors with questionable qualifications may be positively dangerous. I want the NRC to administer the examinations they will be given. The Commission is satisfied with company administered examinations. The view has been expressed that it makes no difference who does the examining. I regard this as naive.

Since the Commission's last meeting on this subject a legal bar to low power operations at Diablo Canyon has surfaced. I have discovered that the NRC's regulations require operators whose license examination is conducted on a simulator, rather than on an operating plant, to have had "extensive actual operating experience at a comparable reactor". None of the Diablo Canyon operators meet this standard. Their licenses are therefore invalid until such time as they either meet this test or the Commission decides to exempt them from this requirement on the basis of the factors enumerated in the regulations.

After receiving a memorandum from the General Counsel stating that the course followed in this case is inconsistent with the plain meaning of the regulations, the Commission decided this morning to ignore its regulations and simply assert that the licenses are valid. The effect is to disregard a vital safeguard which ensures that some degree of experience is available on a plant's staff. Had the regulations been followed, Diablo Canyon would not now find itself without any experienced operators. The operators are the most important safety feature in the plant since they have the discretion to undo all the other safety features in the plant. It is hard to think of a more important safety issue than the competence and experience of the operators.

3/27/84

SEPARATE VIEW OF COMMISSIONER GILINSKY
REINSTATEMENT OF LOW-POWER OPERATING LICENSE
AT DIABLO CANYON

I am withholding my approval of the reinstatement of the Diablo Canyon low-power license because I am not satisfied with the readiness of the plant for operation. I am especially concerned by the absence of commercial experience on the operating crews and the failure to compensate adequately for this.

There are two other aspects of this case -- seismic design and construction quality assurance -- which, while not disabling from the point of view of low-power operation, do not cast the NRC's own review in a particularly favorable light.

Operating Staff Experience

I regard the operator experience question as the most important one in this case. Seismic issues have received a great deal of attention, as they should, but it is well to remember that seismic protection is designed against unlikely contingencies. We rely on the operators for ensuring safety 24 hours a day, every day.

Diablo Canyon does not have a single operator who has had actual operating experience on a commercial nuclear power plant of comparable size. Four operators previously operated the Company's Humbolt Bay plant, a very small boiling water reactor -- one-twentieth the size of each Diablo Canyon unit -- which has been shut down for 8 years, hardly relevant experience. Much has been made of the fact of simulator training. This is valuable, but it does not compensate for the complete lack of relevant commercial experience. It is worth noting also that Diablo Canyon does not have a site-specific simulator.

This problem should have been resolved a long time ago. At this point, there seems to be no alternative to supplementing the shift crews with experienced advisors for the initial period of operation. The difficulty with the way this has been done is that there is no assurance that they have the site-specific training and knowledge needed for safe operation. I would approve plant operation at low power if the advisor on each shift previously held a senior operator license on a large commercial plant, and if he has passed the site specific portion of the senior operator license examination for Diablo Canyon. The Commission has instead chosen to allow the Company itself to decide whether the advisors are qualified and to require such advisors only above five percent power.

Seismic Design Standard

I continue to be concerned by the issue of seismic design standards. The root of the difficulty is that although PG&E and the NRC staff accepted a standard based on a Richter scale magnitude 7.5 earthquake for the purposes of the licensing hearing, after the Hosgri fault was discovered, they did not accept that standard in practice. Apparently in order to avoid having to make significant modifications to the design, PG&E and the NRC staff decided on a number of changes in the way the post-Hosgri standard was applied. These had the effect of shaving safety margins to the maximum extent. In at least one respect, which involved a substantial reduction in safety margin, they resorted to a highly dubious technique. This reduction, referred to as the tau effect, was accepted by two licensing Boards which thought that they, and the expert witnesses, understood the technical basis. As it turns out, there is hardly any technical basis for the reductions.

I asked the Commission to take review of this question long ago. There was plenty of time to do a review before the plant was ready for operation but at each point the concern that plant operations might be held up persuaded the Commission to ignore the problem. What I find particularly disturbing is that it was clear to me that the Commission declined to take review not because it understood the

that a thorough review of the entire seismic design be undertaken, to be completed about 1988.

At yesterday's meeting, the Commission learned that a paper which is to be delivered at the Scripps Institute in April raises new questions about the interpretation of the nature of the faults near Diablo Canyon. This new information reinforces the need for a thorough review of the entire seismic design, as proposed by the ACRS. The Commission has now agreed in principle to such a study. I wish this had been done earlier but I am prepared to accept this approach as a way of dealing with the seismic issue.

Construction Quality Assurance

The NRC has received hundreds of allegations concerning the Diablo Canyon plant. Because one of the allegations was sent to me directly, I felt that I should look into how they were resolved. I chose the audit of the Pullman Power Products, the prime piping contractor from 1971 to 1977, done by the Nuclear Services Corporation (now Quadrex). An important conclusion of that audit report was that the Pullman quality assurance system had been inadequate -- among other things, that "there is no confidence that welding done prior to early 1974 was performed in accordance with welding specification requirements." Most of the piping had been installed by 1974. The NRC staff initially

seismic design and thought it to be acceptable, but because it looked like a can of worms, and the Commission feared the consequences of reopening the issue.

The ACRS recently told the Commission that "we do not believe that scientific or engineering analyses exist today that could be used to calculate the specific quantitative reductions in free-field seismic spectra [the tau effect] that he [Dr. Newmark] recommended for the Diablo Canyon Nuclear Power Plant." Had the Committee stated this view years ago when it originally reviewed the seismic design standard, I doubt that the Boards would have accepted the standard.

The most favorable statement that the ACRS could ultimately make about the seismic standard was that the Committee continued to feel that overall "the use of the staff approach leads to an acceptable level of safety in this instance." This does not address the tau reductions or whether the safety regulations have been satisfied. What I take the Committee to mean is that the earthquake chosen to determine the seismic standard is too large and that the plant's design is adequate for a smaller earthquake. No doubt the Committee also took into consideration the fact that Diablo Canyon is a relatively isolated site. The ACRS did remind the Commission that it had earlier recommended

dismissed this concern on the basis of its discussions with PG&E and a review of the staff's own audit records for the period between 1971 and 1977.

The NRC staff subsequently decided to look into the allegation more closely, apparently because of the Regional Administrator's feeling that more needed to be done. In December 1983, the staff issued a supplementary Safety Evaluation Report stating that it had found "...no evidence to conclude that there was a programmatic breakdown in Pullman Power Products QA program..." and that "The details of the staff review are documents in Inspection Report 50/275/83-37."

When I asked to see the inspection report three months later, the inspector initially refused to supply it to me. As it turns out, only notes existed at the time that the staff wrote the SSER. So far as I can tell, the inspection report only began to be written at about the time I asked to see it. An explanation and correction of the reference to the inspection report was subsequently submitted by the staff to the Commission.

It now appears that the NRC staff called the leader of the NSC audit only in February and, when that person said that he could not remember much about the audit, did not pursue

this further. More could readily have been done, and should have been done earlier.

I would have more confidence in this review if the NRC had first contacted the people who worked on NSC's audit, had then completed the inspection report, subsequently written the SSER, and had only then informed the Board and the Commission of its conclusions.

VIEWS OF COMMISSIONER BERNTHAL ON REINSTATEMENT OF LOW-POWER OPERATING LICENSE AT DIABLO CANYON

Having gone through 2½ years and literally hundreds of allegations, thousands of hours of inspections, reinspections, analysis, and investigation, we can often lose sight of the 98% that is done, since it is frequently the job of the Commission and especially the NRC staff to focus on the 2% that remains undone.

I would therefore like to state for the record the effort that has gone into the long, painstaking, and sometimes just plain painful period of reevaluation and modification of the Diablo Canyon power plant. During this period the licensee, through its primary contractor, has spent some 2,000,000 hours of professional effort to address the problems raised in the fall of 1981 and thereafter; other firms have carried out independent evaluations to the tune of 250,000 hours; the staff of the NRC has devoted 70,000 hours to the technical issues, and another 18,000 hours to evaluating allegations. Diablo Canyon is almost certainly the most inspected plant ever built.

All this is not to imply, of course, that legitimate questions cannot or should not still be asked. I would like to focus on one or two such broad, and I believe legitimate, considerations that remain with respect to the Diablo Canyon powerplant beginning operations. But first let me note what is not reasonable or legitimate to expect in any such massive endeavor. What is not reasonable to expect is perfection. It is not reasonable to expect all things to be perfect at any multibillion dollar construction project, a project involving thousands of workers and millions of independent steps leading to completion, over a period of some 15 years. And, as might have been expected, Diablo Canyon was not perfect. What was not expected, was that it wasn't even just good enough, 2½ years ago, when this second construction, as it were, began.

In my judgment, two important and legitimate issues deserve special mention here today. One question, and perhaps the most fundamentally

important because it is unique to Diablo Canyon, is that of the seismic design adequacy of the Diablo Canyon facility. It should be understood that the science of geology, and especially the study and forecasting of seismic events is an inexact science, as is the engineering of structures to withstand seismic events of a given magnitude. But the best experts available in the field today have offered reasonable and sufficient assurance that the design basis and construction of this plant is adequate to withstand the maximum probable earthquake in the geologic region of the Diablo Canyon plant. I have supported, and the ACRS has recommended, a continuing review and evaluation of the state of the seismic art and science as it develops and relates to Diablo Canyon over the next several years.

In particular, I would note that the recent scientific paper, discussed in some detail at the last meeting of the Commission, apparently indicates that, although the Hosgri fault may be somewhat closer than previously thought to the Diablo Canyon site, the probability is that a large, 7.5 Richter-magnitude quake would, under this latest hypothesis, be less frequent than previously thought. I therefore find no reason, based on this latest of what I am sure will be many more papers on California geology and seismology, to change my position on the seismic adequacy of the Diablo Canyon plant. I have reached that conclusion on the basis of my personal inspection of the plant, the recommendation of the ACRS, and the consensus of expert opinion.

Another important issue is that Commissioner Gilinsky raises in respect to operator qualifications. No one questions the legitimacy of that issue, and indeed, the Commission is currently considering the question of how best to achieve not just adequacy, but excellence at all levels in nuclear powerplant operating staff qualifications. But the question here is not how PG&E and other utilities will achieve uniform excellence in the months and years ahead, but whether PG&E in its Diablo Canyon operations today has achieved a standard that is, beyond a reasonable doubt, adequate to protect the public health and safety. I believe it has achieved that standard. What they have achieved is good, if not perfect. I would add that, consistent with the strong expressed desires

of Commissioner Gilinsky, I believe the Commission does owe this licensee, as it does all our licensees, a clear statement, and soon, of those further steps to be taken along the road to excellence in the operator corps as this licensee prepares for full power operation.

It must be emphasized in this context that the Commission meeting this morning was not intended to address, nor is there any specific or implied need to address for low-power operations at Diablo Canyon, the question of the Commission's longstanding regulation, 10 CFR §55.25, and the definition and practical application of that regulation in satisfying the literal requirement for "extensive actual operating experience at a comparable reactor."

The fact is, the Commission has either implicitly or explicitly concurred in the evolving application of §55.25 since its promulgation more than 20 years ago. The fact is, §55.25 was promulgated at a time when reactor simulators were not generally available. The fact is, in a 1967 memorandum, the General Counsel's office explicitly concurred in the criteria which the staff were then applying in determining whether §55.25 was satisfied or not. The fact is, the Commission participated in the development of the ANSI standard which provided that simulator training was an acceptable means of acquiring necessary experience. The regulatory guides which endorsed that ANSI standard as a method of complying with the requirements of §55.25 were published in their final form only after solicitation and consideration of public comments. Further, the Commission was explicitly informed by the staff of the planned issuance of NUREG-0094 in June, 1976.

It is both understandable and eminently reasonable that the prerequisites for operator licensing should change as the state of the art in operator training techniques changes. Indeed, there are good reasons to rely heavily on simulator training as a prerequisite for operator licensing, not the least of which reasons is that in many respects the use of a simulator is superior to experience gained actually sitting at the controls of a power plant. Given the background of operator licensing criteria applied by this agency for the past 20

years and the implicit, if not explicit, concurrence of the Commission in the application of those criteria, the suggestion that any near term operating license applicant should have a license denied or delayed because the Commission has suddenly changed its mind about what constitutes adequate operator qualification would be irresponsible, and would violate fundamental principles of fairness. The Commission has known exactly what it has been doing for 20 years, what it is doing today, and what it intends to do with regard to operator training. The operators at Diablo Canyon meet Commission standards today, and will be required to meet what may well be upgraded standards yet to be adopted by the Commission in future regulations or regulatory guidance.

Finally, I would address the concerns raised by Mr. Yin at the last meeting of the Commission, and seemingly resolved during the intervening two weeks. I do not interpret Mr. Yin's carefully considered position to reflect total agreement with his colleagues on all technical issues. I would be surprised, and frankly a little concerned, if there were ever total agreement within our staff on such issues. But I do understand that there is now essential agreement on an action plan and timetable for resolution of the remaining questions, and more importantly, agreement that those remaining questions and differences should not preclude criticality and 5% operation. I would caution that we are never entirely out of the woods in such matters, but I believe we have made significant progress, sufficient to act affirmatively to reinstate the suspended license of Diablo Canyon.

There has been a worthwhile and necessary process underway during the two weeks spent resolving Mr. Yin's questions, with the help of the expert third party oversight of the ACRS. I doubt, incidentally, that Mr. Yin considers himself, as some have characterized him, a "whistleblower". Rather, he is a professional member of the NRC's own technical staff who has openly expressed several times over the last four months, his professional disagreement with other staff on a number of technical issues. That is as it should be. But although the issues had been on the table for months, and had been discussed extensively, they apparently had not been discussed sufficiently prior to the

Commission's March 27 meeting. So if I may proffer one plea, to put it kindly, to our staff and especially to the senior staff, it would be that in future, when such professional disagreements exist among staff, if the Commission is expected to resolve them in a meeting, then the Commission must have the benefit of an active debate. Such a debate cannot occur when intrastaff communications have been poor, and when there is not even agreement on what the disagreements are.

4/13/84



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

June 13, 1984

MEMORANDUM FOR: Chairman Palladino
Commissioner Gilinsky
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal

FROM: *J. E. Zerbe*
John E. Zerbe
Director, OPE

SUBJECT: DIABLO CANYON STATUS

At the request of the Chairman, this memorandum is being provided to assist the Commission by identifying information germane to the Diablo Canyon licensing action. It is based upon information provided by the NRC staff in a briefing for the Chairman and the Commissioner's assistants on June 12, 1984. We have specifically called attention to instances where Commission action may be required prior to the Commission's reaching a final decision to authorize full-power for the Diablo Canyon plant. In addition, the information in this memorandum may be useful as background material for the Commission's testimony to Congressman Udall at 2 p.m. on Thursday. This memorandum also includes two items which we have received from Commissioner's offices (items # 8 and 9 below). We have attached a memorandum to the files on Diablo Canyon covering the status of adjudicatory and other items prepared by Sheldon Trubatch, OGC. The major issues discussed below which are still under NRC staff review are: piping and supports, resolution of certain allegations, and the Seismic Design Basis Revalidation Program Plan.

1. Plant Status.

In its letter of June 8, 1984 PG&E reported that it had completed the low power testing program and the few remaining construction activities and that it would be ready for operation above 5 percent power on or about June 19, 1984. NRC Region V staff concurred in PG&E's estimate of operational readiness.

2. Status of Adjudicatory Items

The Commission has a number of adjudicatory items pending. Some may require Commission action before reaching a full-power decision on Diablo Canyon.

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- a. The Commission must conclude an immediate effectiveness review of the Atomic Safety and Licensing Board (ASLB) preliminary initial decision (LBP-82-70) of August 1982 for full power. The Board's decision primarily focused on emergency planning and equipment and PORV safety issues. The emergency planning issue which will require special attention is the licensing condition that prior to full power operation, there must be a formal FEMA review and approval of the California state emergency plan as applicable to Diablo Canyon. PG&E and the NRC staff have appealed the imposition of this licensing condition.
- b. The Commission has pending before it petitions for Commission review of ALAB-763 (Design Quality Assurance). OGC will shortly provide its recommendation on the petitions for review. The Commission need not complete action on ALAB-763 before authorizing full power for Diablo Canyon, but could rely upon a preliminary determination as part of an immediate effectiveness decision on LBP-82-70 that there is nothing in the ALAB-763 requiring deferral of a decision on full power.
- c. Two petitions on ALAB-756 (Construction Quality Assurance) are currently before the Commission for review. These petitions are to reopen the record on alleged deficiencies in construction QA. The Commission has not decided whether to defer a full-power decision until these petitions have been resolved. As a part of its immediate effectiveness review of the ASLB decision on full power, the Commission could also decide based upon a preliminary determination that the full-power license need not be delayed pending final action on ALAB-756.
- d. There are pending motions before the Commission for the Appeal Board to reopen on allegations in the areas of design quality assurance and construction quality assurance. Commission action on these motions is not essential prior to a decision on full-power. However, by analogy of the Commission's treatment of allegations, some preliminary determination should be made on whether these motions raise any issues warranting deferral of a Commission decision on full power operation.
- e. The effect of earthquakes on emergency planning is an issue pending before the Commission. The Commission is considering whether to reopen the Diablo Canyon record on this issue. The Commission has left open the question of whether the litigation of this issue must precede the grant of a full power license.

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3. Status of Pending Investigations

Mr. Hayes reported that there are currently 20 ongoing investigations of which 16 were inquiries. Mr. Hayes indicated that he relies on Region V for identification of investigations having safety significance which could affect a Commission decision to permit Diablo Canyon to go to full power. At the present time, there are no investigations which have been identified by the staff that would bar a Commission decision to authorize full power.

However, prior to authorizing full power for the Diablo Canyon plant, the Commission will need to make a preliminary review and come to a judgment that there are no significant safety issues which must be resolved prior to the Commission's decision. We would expect that prior to a Commission decision on full power that the Commission would be briefed by the Office of Investigations in order to obtain the most current status of OI's investigations. This could include additional written materials on the status of investigations beyond that now contained in SSER 22.

The areas of investigation are:

- a. Intimidation and harrassment
- b. Quality Assurance/Quality Control breakdown
- c. False documents - Background of security guards
- d. Vendor material false records
- e. Quality Assurance/Quality Control welding concerns
- f. Falsification of PG&E documents

4. Allegation Status.

Mr. Bishop of Region V reported on the current status of allegations. At the present time, there are approximately 700-800 allegations whose safety significance is being screened according to criteria contained in SSER 22. Mr. Bishop expects staff work on resolution of allegations pertinent to a Commission decision authorizing full power for Diablo Canyon to be completed within the next week. Mr. Bishop indicated that the NRC staff continues to receive new allegations. However, it appears that many of these allegations repeat earlier ones. Prior to a Commission decision to authorize full power operation for Diablo Canyon, the Commission will need to make a judgment based upon the most recent information that there are not significant outstanding safety issues associated with the allegations. We would expect that the Commission's judgment would be based upon the most current information presented as additional written material on the status of allegations beyond that contained in SSER 22 and/or an NRC staff briefing highlighting the most recent information on allegations.

*Must be decide on
approving the staff approach
to handling allegation*

5. Seismic License Condition.

According to the Commission's decision authorizing 5 percent power, PG&E must put in place a seismic review program which will reevaluate seismic factors at Diablo Canyon over a several year period. In accordance with that condition, PG&E will submit its proposed seismic program by January, 1985. Further, in response to the Commission's request, the staff is preparing a more detailed plan of implementation on the seismic review program that, although not required, the Commission would consider at the time of full power licensing.

6. Licensing Issues.

Mr. Eisenhut and Mr. Vollmer reported on various licensing issues currently under review by the NRC staff. They are:

- a. IDVP issues: Mr. Vollmer estimates that there are four issues to be completed. These issues were previously identified in SSER 20 as requiring resolution prior to full power operation. These issues are 1) turbine building roof truss modeling, 2) two additional piping analyses, 3) jet impingement loads inside containment, and 4) seismic analysis of the containment annulus
- b. There are several technical specification changes and modifications for which staff work is not completed yet.
- c. The NRC staff is continuing to evaluate the Diablo Canyon operator and shift supervisor qualifications and training.
- d. Mr. Eisenhut reported that there are roughly four §2.206 petitions on Diablo Canyon which the staff is currently reviewing.
- e. Mr. Eisenhut stressed that there are a number of areas where PG&E still owes the NRC staff additional information in order for the NRC staff to complete their reviews. (e.g., containment painting, small bore piping, and systems interactions modifications.)

With respect to completion of NRC staff reviews, Mr. Eisenhut stressed that additional time would be required to complete NRC staff review, and that this would be unlikely to be completed before the end of June and more likely sometime during July.

Mr. Yin is providing separate testimony for the Udall Committee. In his testimony he expresses a number of concerns with respect to the sufficiency of PG&E and NRC followup work and he indicates his belief that adequate resolution of his concerns cannot be completed until July or August.

The NRC staff plans to provide an SSER 23 which will document the staff's review, conclusions, and recommendations on these remaining issues. The exact scope of this SSER has yet to be defined. For instance, it could focus on the licensing issues discussed above or it could include the current status of allegations and investigations. The Commission will need to review this SSER prior to reaching a decision to authorize full-power operation at Diablo Canyon.

7. OIA Investigation.

Mr. Messenger reported on the work by OIA on the Governmental Accountability Project §2.206 petition alleging material false statements made by the NRC staff during Commission meetings of March 19, 26, and 27, 1984 and in SSER 21 and 22. He indicated that OIA is currently reviewing the GAP submissions to determine what specific information the petitions contain in support of the allegations. Prior to authorizing full-power operation of Diablo Canyon, the Commission will need to make a preliminary judgment that there are no significant safety issues stemming from the OIA investigation.

8. Commissioner Gilinsky believes that there should be at least one person on each shift with one year "hot" licensed operating experience and that person should have passed a plant specific examination identical to the two day NRC SRO examination.

9. Commissioner Asselstine believes that prior to authorizing full power operation the Commission should direct the NRC staff to complete the two actions recommended in the "additional comments" by several members of the ACRS in its letter to Chairman Palladino of April 9, 1984. This letter presents the ACRS report on design control measures at the Diablo Canyon plant. ACRS members Axtmann, Ebersole, and Okrent believe that prior to ascent above five percent power, the NRC staff should prepare a document discussing in considerable detail how the various relevant issues raised by its inspectors and others have been handled. They also recommend that the staff perform a careful examination of a selected sample of actual construction details to help assure that the appropriate quality has been achieved. In addition, they believe that the ACRS should be given an opportunity to review these results prior to full power operation.

*See NRP
response*



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

June 13, 1984

MEMORANDUM FOR: Files
FROM: *AYY* Sheldon L. Trubatch
SUBJECT: *AYY* REMAINING ACTIONS FOR FULL-POWER

This presents an overview of remaining Commission actions related to a full-power operating license for Diablo Canyon and relates those actions to the division of institutional responsibilities within the NRC. A review of some important earlier licensing milestones in this proceeding provides the necessary context for understanding the current licensing situation.

1. Full-Power Licensing Board Decision

PG&E applied for an operating license in 1973. A Licensing Board held hearings on that application between 1976 and 1979. In 1978, the Licensing Board issued the first of four decisions deciding in PG&E's favor various allegations regarding the safety and environmental impacts of plant operation. The Appeal Board subsequently affirmed three of those decisions. The fourth, LBP-82-70, on emergency planning and two safety issues, is currently pending before the Appeal Board. The issues in that decision did not have to be resolved finally before the issuance of a low-power licensee. But under Commission practice, before a full-power license can be issued to PG&E, the Commission itself must conclude affirmatively an immediate effectiveness review of this fourth Licensing Board decision.

2. Low-Power Adjudication

In July of 1980, before the full-power licensing proceeding was concluded, PG&E applied for a low-power license. The Licensing Board held separate hearings on that request, and granted it in 1981. Thereafter, the Commission made the low-power license immediately effective. However, because of subsequent events, the Commission's involvement with the

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low-power license was unusually extensive. No further Commission action is pending on the low-power license.

3. IDVP

The Director of Nuclear Reactor Regulation issued the license on September 22, 1981. The subsequent discovery of a significant breakdown in quality assurance at Diablo Canyon led the Commission to suspend the license by immediately effective order of November 19, 1981. The suspension was to be effective pending the satisfactory completion of an Independent Design Verification Program (IDVP). Because the reinstatement of the low-power license has been treated as an enforcement matter, review of the IDVP has been conducted by the staff and the Commission in a non-adjudicatory manner.

Although the IDVP was instituted for the purpose of reinstating the low-power license, the IDVP has uncovered matters which are important to only full-power operation. Thus, the Commission reinstated the low-power license with these matters still open, but will not authorize full-power operation until those matters have been addressed. Essentially, the Commission is treating IDVP issues related to full-power as it would treat any uncontested issues related to full-power. The staff expects to prepare safety evaluation reports (SER) on the resolutions of these issues. For low-power reinstatement, the Commission's decision relied in part on such SERs.

4. Allegations

As the IDVP drew to a close and the Commission moved towards a decision on reinstating PG&E's low-power license, several hundred allegations of design and construction deficiencies were made to the NRC staff. Not all of these allegations have been resolved, and the staff has yet to determine whether any of these allegations require resolution prior to full-power operation. Also, the Commission has not adopted criteria for determining that all allegations have been addressed adequately before authorizing full-power operation.

5. Adjudicatory Items

The IDVP and allegations of violations of NRC regulations have provided the bases for several adjudicatory issues

which were raised after the record closed for the full-power hearing.

a. ALAB-756

This is an Appeal Board decision denying intervenors' motion to reopen the record on alleged deficiencies in construction quality issuance (CQA). Petitions for review of this decision are still pending before the Commission. The Commission has not decided whether to defer a full-power decision until these petitions have been resolved. The Commission could use its immediate effectiveness review of the Licensing Board's full-power decision to include a determination on whether a full-power license should be delayed pending final action on ALAB-756.

b. Motion to Reopen on CQA

After ALAB-756 was issued, intervenors again moved the Appeal Board to open the record on QA and on management competence and character. These motions rely on many of the issues raised in the allegations pending before the staff. The Appeal Board has not yet acted on those motions. Here again, the Commission could use its immediate effectiveness review for a full-power license to include a decision on how the pendency of these motions should be factored into a full-power decision.

c. ALAB-763

This is an Appeal Board decision finding no merit to intervenors' challenges to the adequacy of design quality assurance (DQA) at Diablo Canyon. Petitions for review of this Appeal Board decision are still pending before the Commission. As with ALAB-756, the Commission could use its immediate effectiveness review of the Licensing Board's full-power decision to include a determination on whether a full-power license should be delayed pending final action on ALAB-763.

d. Motion to Reopen on DQA

After ALAB-763 was issued, intervenors again moved the Appeal Board to reopen the record on DQA issues. This motion relies on many of the issues raised in the allegations before the staff. The Appeal Board has not yet acted on these pending motions. As with the pending motions

to reopen on CQA, the Commission could use its immediate effectiveness review of a full-power license to include a decision on how the pendency of these motions should be factored into a full-power decision.

e. Effects of Earthquakes on Emergency Planning

The Commission asked the parties to brief issues on whether to reconsider this issue. Because this issue mainly affects offsite emergency planning, the Commission determined that the issue did not have to be considered when it determined to issue a low-power license for Diablo Canyon. The proceeding on this issue may not be concluded soon. Accordingly, the Commission could use its immediate effectiveness review of a full-power license to include a decision on how the pendency of this issue should be factored into a full-power decision.

6. 2.206 Petitions

There are four 2.206 petitions pending before the staff. These involve many of the same issues raised by the allegations. After the staff responds to those petitions, the Commission will have to review any denials. The Commission could use its immediate effectiveness review of a full-power license to include a determination of how the pendency of the 2.206 petitions should affect a full-power decision.

7. OIA Investigation

This investigation is an off-shoot of the 2.206 petitions. Those petitions contained allegations that the NRC staff made deceptive or material false statements to the Commission during various meetings and in various documents. Because these allegations go to the Commission's confidence in the staff's assessment of Diablo Canyon's readiness for full-power licensing, the Commission may want to make at least a preliminary decision on the substantiality of these claims. The Commission could use its immediate effectiveness review of a full-power license to include a determination on how the pendency of this investigation should affect a full-power decision.

8. OI Investigations

These investigations are off-shoots of the allegations presented to the staff. Currently, the staff believes that

none of these allegations present safety issues requiring resolution prior to the issuance of a full-power license. The Commission may want to review that assessment prior to deciding on whether to authorize full-power operation. The Commission could use its immediate effectiveness review of a full-power license to include a determination on how the pendency of these investigations should affect a full-power decision.