



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

June 29, 1984

The Honorable Gary Hart
United States Senate
Washington, DC 20510

Dear Senator Hart:

Thank you for your letter of May 24, 1984 regarding the pending application of the Pacific Gas and Electric Company (PG&E) for full power operation of the Diablo Canyon Nuclear Power Plant.

As you noted in your correspondence, the Commission has reinstated the low power operating license for Diablo Canyon Unit 1. A copy of the Commission's April 13, 1984 Memorandum and Order in which this action was authorized is enclosed. Since that time, Unit 1 has been started up and tested at low power. There now remain a number of activities to be considered before the Commission can review the application for full power operation.

The resolution of allegations, a subject on which you expressed considerable concern, is certainly among those activities to be considered. In its April 13 Memorandum and Order, the Commission noted specifically that work under the special Diablo Canyon Allegation Management Program (DCAMP) would continue both to document the reviews completed prior to that date and to "address those matters that need to be resolved prior to licensing at higher levels" (at p. 11). Each allegation will be reviewed and evaluated to determine whether or not it is relevant to safe operation of the plant at full power. If relevant, it will be resolved to the extent necessary to permit a finding that there is reasonable assurance that the health and safety of the public is protected.

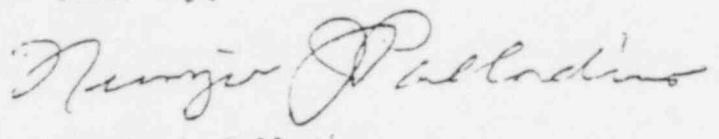
The Commission has been advised that the NRC staff review of issues requiring completion before full power operations will not be completed before early to mid July. Only when that has been accomplished will the Commission undertake its review and evaluation of all appropriate safety concerns raised by the full power operation of the Diablo Canyon plant.

The Honorable Gary Hart

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Let me assure you that the Commission has always been and continues to be aware of the seriousness of its responsibility for the health and safety of the public. Thank you for sharing your concerns with the Commission.

Sincerely,



Nunzio J. Pallacino

Enclosure:
As stated

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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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]

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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

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

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]

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

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

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 Intervenors' petition for enforcement action under 10 C.F.R. 2.206. DD 84-8, 19 NRC ____ (March 26, 1984). Joint Intervenors 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

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.

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.

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

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.

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.

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

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

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

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