



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

PDR

August 17, 1984

The Honorable Morris K. Udall, Chairman  
Subcommittee on Energy and the Environment  
Committee on Interior and Insular Affairs  
United States House of Representatives  
Washington, D.C. 20515

Dear Mr. Chairman:

I am writing in response to your letter, dated August 10, 1984, inviting me and my fellow Commissioners to testify before the Subcommittee at a field hearing in San Luis Obispo on the licensing of the Diablo Canyon nuclear power station.

As you are aware, the Commission has just completed an extended review of the safety of Diablo Canyon Unit 1 prior to authorizing full-power operation earlier this month. The public record in the Diablo Canyon matter is voluminous. On March 8, 1983, on January 24, 1984, and again on June 14 of this year, the Commission testified before the Subcommittee on this subject. Before reaching a decision on full-power authorization, the Commission received written comments from the parties and held a final public meeting on August 2, 1984. The Commission's decision authorizing full-power operation is thus based on an extensive and well-documented public record. Its reasoning is set forth in the Commission's order of August 10, 1984 (copy attached). The Commission's decision in this case speaks for itself, and is now before a federal court for review.

Under the circumstances, there is little of substance which we could communicate to the Subcommittee which has not already been thoroughly ventilated (1) during our several prior sessions with the Subcommittee, (2) in the many Commission meetings regarding the licensing of Diablo Canyon, and (3) in the detailed order authorizing full-power operation which has just been issued.

The members of the Commission, except for myself, had previously scheduled personal leave or travel for August 30; hence, I will be unable to attend the hearing in San Luis Obispo. However, Commissioner Asselstine has agreed to revise his schedule so as to be able to attend. I will ask him to submit a statement on behalf of the Commission for the record. In addition, I will

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designate appropriate NRC staff to be available at the hearing to answer questions regarding the current status of the Diablo Canyon plant and the basis for the staff's recommendations to the Commission.

Sincerely,

A handwritten signature in cursive script, reading "Nunzio J. Palladino". The signature is written in dark ink and is positioned to the right of the typed name.

Nunzio J. Palladino

cc: The Honorable Manuel Lujan

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman  
Thomas M. Roberts  
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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-84-13

Introduction

This order concludes the Nuclear Regulatory Commission's process for determining whether to make effective the Atomic Safety and Licensing Board's ("Licensing Board") fourth and final Partial Initial Decision (PID), LBP-82-70, 16 NRC 756 (1982) authorizing the issuance of a full power license for the Diablo Canyon Nuclear Power Plant, Unit 1 ("Diablo Canyon" or "plant"), to Pacific Gas and Electric Company ("PG&E"), subject to the satisfaction of certain license conditions. Formal appeals and petitions for Commission review of the merits of various Licensing Board and Atomic Safety and Licensing Appeal Board ("Appeal Board") decisions for Diablo Canyon are still pending. This

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### Conclusion

The Commission's decision on these issues is discussed below. In sum, the Commission has determined: (1) to make effective, without prejudice to the pending merits reviews, the Licensing Board decision authorizing issuance of the full power operating license for Diablo Canyon; (2) that the license conditions imposed by the Licensing Board have been fulfilled; and (3) that all of the other matters listed above have been resolved adequately to authorize issuance of the full power license for Diablo Canyon Unit 1. However, this Order shall not become effective, and no full power license may issue, until 5:00 p.m., Eastern Daylight Time, August 17, 1984. This delay is to allow orderly processing of any request for expedited judicial review.

### Discussion

#### 1. Licensing Board Decision

In LBP-82-70, 16 NRC 756 (1982), the Licensing Board determined that a full power operating license for Diablo Canyon could be issued upon the satisfaction of certain license conditions. Previous decisions by the Licensing Board and Appeal Board resolved other contested matters. The two remaining issues decided by the Licensing Board in LBP-82-70 were:

- (1) the adequacy of the Diablo Canyon emergency plan; and
- (2) whether the plant's pressurizer heaters, block valves and power-operated relief valves were required to be

As for the pressurizer heaters, power-operated relief valves and their associated block valves, the Licensing Board found that:

(1) pressurizer heaters were not required to be safety-grade; (2) two of the three PORVs and associated equipment are safety grade; and (3) adequate protection of public health and safety is provided by this equipment as installed. These decisions obviously support the issuance of a full power license. The Commission finds nothing in the pending appeal which would support a stay of license issuance.

2. Uncontested Licensing Issues

a. Conditions On The Low-Power License

The low power license for Diablo Canyon contained several license conditions required to be satisfied by PG&E prior to a full power license decision. Seven of these conditions were a direct outgrowth of concerns raised by Mr. Yin. In response to his concerns, the NRC staff formed the Diablo Canyon Peer Review Group (Peer Review Group), which included senior staff engineers expert in piping, piping supports, and quality assurance. After meeting with Mr. Yin and PG&E, and after examining areas of the plant of concern to Mr. Yin, the Peer Review Group formulated the seven license conditions.

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[Footnote Continued]

interpreted to require completion of the formal FEMA review process under 44 CFR 350. To the extent that the Licensing Board may have had a less formal FEMA review in mind, the Board's condition has been satisfied by FEMA's letter of July 11, 1984. The merits review of ALAB-776 is pending before the Commission, and the Commission does not, at this point, express any view on the correctness of ALAB-776.

At the August 2, 1984 public Commission meeting, Mr. Yin expressed his professional disagreement with the Peer Review Group's report on the adequacy of the resolution of certain design issues. The Commission explored with Mr. Yin and other members of the NRC staff the details of this differing professional judgment. Based on these discussions and the analyses in SSER 25, the Commission believes that the collective judgments by the Peer Review Group and ACRS are deserving of more weight than the views of Mr. Yin. Accordingly, the Commission accepts the judgments of the Peer Review Group and ACRS and believes that these matters have been resolved adequately for issuance of a full power license.

Staff concluded in SSER-23 that PG&E had satisfied its requirements related to fire protection. Staff also reported in SSER 24 that PG&E's jet impingement evaluation, conducted in response to a condition imposed by the Appeal Board in ALAB-763, was acceptable.

b. Other Issues

As with any full power license, the license for Diablo Canyon contains several technical conditions which reflect the NRC staff's prelicensing technical review of issues relevant to full power operation. For Diablo Canyon, the license conditions and the technical bases for them are contained in SSER 27. The Commission believes that SSER 27 adequately addresses the full power issues considered by the staff.

b. Other Issues

Supplements 18, 19 and 20 to the Safety Evaluation Report for Diablo Canyon also identified a number of other items requiring resolution prior to full power operation. In Supplement 24 to the Safety Evaluation Report (SSER 24) the staff has reported that all these items have been resolved. The Commission has no reason to disagree with the staff's analysis.

4. Training And Qualification Of Operators And Shift Supervisors

On July 13, 1984, the NRC staff reported to the Commission on the performance of operating crews and shift advisors<sup>2</sup> during start-up and low power testing, SECY-84-283 (1984). The report was based on observations and evaluations by various teams composed of members of the NRC

staff expert in operator licensing, license qualification, and license examination. The teams concluded that:

1. PG&E has provided shift advisors that meet the Commission requirements for qualifications, training and experience;
2. the shift advisors are successfully working with operating shift crews;

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<sup>2</sup>Shift advisors experienced with PWRs comparable to Diablo Canyon were provided for each operating shift to provide operating support until the operating crews attained experience with operating the facility.

All allegations were handled by the Diablo Canyon Allegation Management Program (DCAMP) described in SSER 21 and SSER 22. Under that program, the NRC staff has spent thousands of hours investigating and evaluating those allegations. All allegations were screened using criteria set out in SSER 22 for determining which allegations required resolution prior to full power operation.

As a result of this screening, seven areas were identified in SSER 22 as requiring resolution prior to exceeding low power:

1. Operational Limits for the Component Cooling Water System;
2. Replacement of Welded High Strength Bolts;
3. As Built Drawings for Operations;
4. Completion of Systems Interaction Program and Modifications,
5. Evaluation of Coating Concern;
6. Piping and Supports and Related Design Issues; and
7. Residual Heat Removal Low Flow Alarm.

The detailed evaluations and resolutions of these allegation areas are contained in SSER 26. In addition, SSER 26 resolves a subsequently developed allegation area regarding bolted connections.

At the August 2, 1984 public Commission meeting, the staff reported that approximately three hundred of the remaining allegations had been resolved satisfactorily and that the documentation of these resolutions would be available shortly. The staff also reported that resolution of all of the allegations required only very few (less than ten) physical changes to the plant. Some 500 allegations remain which have not been



the same meeting, the Office of Inspector and Auditor (OIA) reported that allegations of wrongdoing by the staff had not been substantiated. The Commission also discussed with Mr. Ronald Smith, the OIA investigator, allegations regarding his conduct of the investigation.

Based on the written and oral report by the staff, the Commission concludes that authorization of the full-power license need not await resolution of pending investigations and that there is no reason to pursue further the allegations of staff wrongdoing.

#### 8. Adjudicatory Decisions

In ALAB-756, the Appeal Board determined that Joint Intervenors and the Governor of California had failed to carry the heavy burden of showing that the formal adjudicatory record on construction quality assurance should be reopened. Petitions for Commission review of this decision were then filed. A majority of the Commission not having voted to review this decision, the petitions for review were deemed denied.

In ALAB-763, the Appeal Board extensively reviewed contentions regarding alleged deficiencies in the design quality assurance program as reviewed by the Independent Design Verification Program (IDVP). The Appeal Board found that the IDVP had not uncovered any uncorrected deficiencies in design quality assurance requiring a reversal of the Licensing Board's previous decision on the adequacy of design quality assurance. The Commission is considering the petitions for review of this decision and the responses thereto. The decision in ALAB-763 obviously supports issuance of a full power license, and the Commission

earthquakes in central California. This information has also been supplied to the Appeal Board in Joint Intervenors' motion to reopen the seismic record in this proceeding.

Subsequently, on July 25, 1984, Joint Intervenors moved the Appeal Board to stay the Diablo Canyon proceeding. That stay request incorporated Joint Intervenors' previous request of July 17, 1984 and raised other issues. By Order of July 27, 1984, the Appeal Board directed that stay request to the Commission.

The Commission has reviewed the parties' filings and determined, for the reasons discussed below, that a stay of the licensing proceeding is not warranted.

Before addressing the stay criteria, the Commission notes that it has recognized the growth of scientific knowledge in seismology and geology and the resulting potential need to reassess the seismic design basis of Diablo Canyon. The license for Diablo Canyon is conditioned on PG&E's completion of a seismic reevaluation by 1988. Of course, if new information developed in the interim requires more prompt action, that action will be taken. But the information presented now by Joint Intervenors does not warrant a stay.

Traditional stay analysis requires a movant to address several factors including, in particular, a demonstration of irreparable injury and probability of success on the merits. As applied to the new seismic information, this requires Joint Intervenors to demonstrate that the new information requires the conclusion that there is no longer reasonable assurance that the seismic design of Diablo Canyon is adequate, and that Joint Intervenors will be irreparably injured by permitting the plant to

The Commission finds that the Morgan Hill data does not undermine the Appeal Board's analysis. As PG&E and the NRC staff point out, the new high value of ground acceleration observed at Morgan Hill was measured at a dam abutment, thus presenting a situation similar to that at the Pacoima Dam. Moreover, as discussed below, the "focusing" effect believed partially responsible for this high value of ground acceleration has already been found not present at Diablo Canyon. Under these circumstances, the Joint Intervenors have not established that they are likely to demonstrate a lack of reasonable assurance that the seismic design is adequate.

Joint Intervenors also rely on the conclusions of the United States Geologic Survey that the Morgan Hill earthquake demonstrated "focusing" and "high stress drop." These findings, Joint Intervenors contend, contradict the Appeal Board's conclusions that focusing and high stress drop were speculative phenomena.

But the Appeal Board did not merely dismiss focusing and high stress drop as speculative phenomena. For example, focusing was dismissed in part for Diablo Canyon because of site geology. The Appeal Board found that focusing would not be expected because the Diablo Canyon site had the wrong orientation to the Hosgri Fault and was too far from the source of the focussed motion. By contrast, the high ground acceleration associated with the Morgan Hill earthquake was measured at a site aligned with the unilateral rupture expansion and close to a secondary energetic source of seismic radiation. Thus, the Morgan Hill data does not undercut the Appeal Board's discussion of focusing.

review process.<sup>3</sup> Indeed, in a letter of June 20, 1984, the ACRS stated that the new data on the character of the Hosgri fault do not require "immediate revision of the seismic design basis for Diablo Canyon."

Finally, Joint Intervenors contend that recent earthquake activity in California's central coastal region contradicts the Appeal Board's conclusion that the plant is situated in an area of low to moderate seismicity. PG&E has provided contrary expert opinion, and the staff notes that the six earthquakes referred to by Joint Intervenors occurred over a widely scattered area. Under these circumstances, Joint Intervenors have not demonstrated the necessary probability of success on the merits on this point.

b. Other Issues

Joint Intervenors' stay request of July 25, 1984 raises five other issues which have been raised before the Commission in earlier stages of this proceeding. Because Joint Intervenors present no new perspectives on these issues, the Commission responds to them briefly below.

(i) Class Nine Accidents - Once again Joint Intervenors contend that the Commission violated the National Environmental Policy Act of 1969 and its own regulation by not explicitly considering Class

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<sup>3</sup>This would include a reevaluation of the Safe Shutdown Earthquake should the character of the fault be definitively determined to be of the thrust variety. Pending such a reevaluation, there is no basis for the Joint Intervenors' assumption that an SSE of magnitude 7.5 would still be appropriate for a different type of fault motion.

that the California State Emergency Plan for Diablo Canyon is adequate. Accordingly, this issue cannot support a motion for a stay.

(v) Quality Assurance - Joint Intervenors' arguments here essentially repeat the arguments in their petitions for review of ALABs-756, 763 and 775. A Commission majority does not favor the petitions for review of ALAB-756. As for the petitions for review of ALAB-763 and ALAB-775, this is no different from the pendency of any exceptions before the Appeal Board when the Commission conducts an effectiveness review of a Licensing Board's decision. While the Commission has determined that the petition for review of ALAB-763 and ALAB-775 do not raise issues warranting a stay, this determination is without prejudice to the Commission's ultimate disposition of the petition.

Joint Intervenors have also made no showing of irreparable injury. Their contention that operation of the plant will create a substantial risk is based on their conclusion that there is no longer any reasonable assurance that the seismic design of the plant is adequate. As discussed above, this conclusion is not supported.

EXPLANATORY STATEMENT OF COMMISSIONER LANDO W. ZECH

The history of the licensing of the Diablo Canyon Nuclear Power Plant is complex and protracted. The record of the proceeding is voluminous. I have reviewed a considerable part of the record. I have visited the Diablo Canyon plant. I have talked to the utility management personnel, including some of the operators. However, the time available to me as a Commissioner has simply not been sufficient for me to satisfy myself that I have read, analyzed, and adequately reflected upon all the relevant material. If my vote were needed, either yea or nay, I believe I would need several more weeks before I could come to a decision. Therefore, I have concluded that I cannot vote today on the full power license decision for Diablo Canyon.

These questions existed at the time that the Commission authorized the reinstatement of the low power license for Diablo Canyon Unit 1. When I voted to permit low power operation, it was with the understanding that Mr. Yin and other elements of the NRC staff were in agreement on the measures needed to resolve those questions prior to a Commission decision authorizing full power operation. I am particularly disappointed in the staff's subsequent handling of Mr. Yin's concerns. Given the special significance of seismic design for this plant and the extent of the quality assurance breakdown in the seismic design program for portions of the plant, it was incumbent on the NRC staff to make every effort to verify that all significant design errors had in fact been identified and corrected. Based upon the continuing concerns expressed by Mr. Yin regarding the adequacy of the staff's verification efforts and the extent of the seismic design quality assurance breakdown in the case, I am not yet satisfied that the Commission has the information needed to conclude, with a high degree of confidence, that all significant seismic design errors for this plant have been identified and corrected. The Agency's handling of these questions is particularly unfortunate since the adequacy of the seismic design of the plant is a matter of public concern and since it appears that an adequate design verification program to resolve Mr. Yin's concerns could be completed in a matter of a few weeks.