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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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SECRETARY
OF ENERGY & SERVICE
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COMMISSIONERS:

- Nunzio J. Palladino, Chairman
- Victor Gilinsky
- Peter A. Bradford
- John F. Ahearne
- Thomas M. Roberts

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In the Matter of)
)
 PACIFIC GAS AND ELECTRIC COMPANY)
)
 (Diablo Canyon Nuclear)
 Power Plant, Unit 1))

Docket No. 50-275 OL

ORDER SUSPENDING LICENSE

CLI-81-30

1. On September 21, 1981, the Nuclear Regulatory Commission ("Commission" or "NRC") authorized the NRC staff to issue a license to Pacific Gas and Electric Company ("PG&E") for fuel loading and the conduct of tests at up to 5% of rated power at the Diablo Canyon Nuclear Power Plant Unit 1, CLI-81-22, 14 NRC _____. On September 22, 1981, the NRC staff issued such a license. License No. DPR-76. In taking these actions the Commission found that it was in the public interest to allow effectiveness, and the NRC staff found that the applicant was in compliance with NRC regulations and construction permit requirements relevant to the licensed activity.

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2. In late September 1981, in the course of responding to a special NRC request for information, an error in the seismic design of equipment and piping in the containment annulus of Diablo Canyon Unit 1 was detected by PG&E and reported to the NRC. PG&E committed to postpone loading of fuel until the matter was resolved satisfactorily and initiated a reanalysis of portions of the seismic design of the facility. As a result, a number of different additional errors were found. Based upon information supplied by PG&E, and recent NRC staff inspections conducted at the offices of PG&E and URS/John A. Blume and Associates ("Blume") in San Francisco, Report Nos. 59-275/81-29 and 50-323/81-18, the NRC staff identified serious weaknesses in PG&E's quality assurance program. More specifically:

- a. the PG&E quality assurance program did not appear to effectively exercise control over the review and approval of design information passed to and received from Blume,
- b. the PG&E quality assurance program did not appear to adequately control the distribution of design information from Blume within affected internal PG&E design groups, and
- c. the PG&E quality assurance program did not appear to define and implement adequate quality assurance procedures and controls over other service-related contracts.

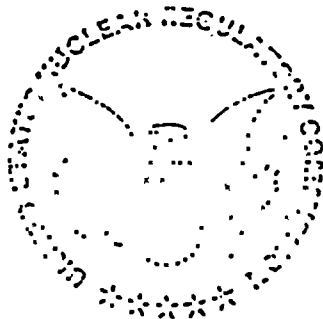
3. This new information indicates that, contrary to statements made in PG&E's operating license application, certain structures, systems, and components important to safety at the plant may not be properly designed to withstand the effects of earthquakes, and further indicates that violations of NRC's regulations in 10 CFR Part 50, Appendix B have occurred. Had this information been known to the Commission on or prior to September 22, 1981, Facility License No. DPR-76 would not have been issued until the questions raised had been resolved.

4. Accordingly, the Commission suspends PG&E's license to load fuel and conduct tests at up to 5% of rated power pending satisfactory completion of the actions specified in attachment 1 to this Order. In furtherance of this, PG&E is hereby ordered to show cause pursuant to 10 CFR 2.202 and 50.100, why Facility License No. DPR-76 should not be suspended pending satisfactory completion of the actions specified in attachment 1, insofar as it authorizes fuel loading and other operation of Diablo Canyon Nuclear Power Plant Unit 1.- Further, the Commission finds pursuant to 10 CFR 2.202(f) that, because it is now uncertain as to the extent which structures, systems, and components important to safety of fuel loading and testing at up to 5% of rated power will in fact withstand the effects of earthquakes, and because of the seriousness of the violations, the public health, safety and interest require that this Order be


immediately effective. Within 20 days of the date of this Order, PG&E may file a written answer to the Order under oath or affirmation and may demand a hearing. The issues to be addressed in any answer or hearing shall be whether the matters specified in paragraphs 2 and 3 are true and whether, as a consequence, the license should have been suspended as provided in this paragraph.

A separate statement by Commissioner Roberts is attached. --

It is so ORDERED.



For the Commission



SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.,
this 19th day of November, 1981.

Attachment 1

1. Provide the following information for NRC review:

For All Seismic Service-Related
Contracts Prior to June 1978

- (a) The results of an independent design verification program on all safety-related activities performed prior to June 1, 1978 under all seismic-related service contracts utilized in the design process for safety-related structures, systems and components.

Information concerning this program should address quality assurance procedures, controls and practices concerning the development, accuracy, transmittal, and use of all safety-related information both within PG&E and within each contractor's organization, as well as the transmittal of information between PG&E and each contractor. It should also include performance of a suitable number of sample calculations related to each contract to verify the adequacy and accuracy of the design process for affected safety-related structures, systems and components. The information to be provided concerning this design

verification program should be based on and include the following program elements.

- (1). A review of all quality assurance procedures and controls used by each pre-June 1978 seismic service related service contractor and by PG&E with regard to that contract; a comparison of these procedures and controls with the related criteria of Appendix B to 10 CFR 50; and an identification of any deficiencies or weaknesses in the quality assurance procedures and in controls of the contractor and PG&E.

- (2). Development of a network for the design chain for all safety-related structures, systems, and components involved. This should include all interfaces where design information was transmitted between PG&E internal design groups and each contractor.

- (3). A review of the implementation of quality assurance procedures and controls used by and for:

- PG&E internal design groups,
- each contractor internal design group(s),
- transmittal of information between PG&E and each contractor,
- transmittal of contractor developed information within PG&E; and identification of any deficiencies or weaknesses in the implementation of quality assurance procedures and controls by each contractor and by PG&E.

(4). Development of criteria for the conduct of this design verification program should consider the relevant guidelines contained in ANSI N45.2.11, Section 6.3.1.

(5). Development of criteria for selection of a suitable number and type of sample calculations related to the design of safety-related structures, systems and components involved. The purpose of these sample calculations should be to

1 verify the design procedures, particularly in the areas of any identified contractor or PG&E quality assurance weaknesses or deficiencies as determined from the procedure and implementation reviews discussed in steps 1 through 3 above. Criteria for expanding the sample size when problems in verification are encountered should also be developed.

- (b) A technical report that fully assesses the basic cause of all design errors identified by this program, the significance of design errors found, and their impact on facility design.
- (c) PG&E's conclusions on the effectiveness of this design verification program in assuring the adequacy of facility design.
- (d) A schedule for completing any modifications to the facility that are required as a result of this program. For modifications that you propose not completing prior to fuel load, the bases for proceeding should be provided.

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2. The following information shall be provided for NRC review and approval. NRC will make its decision on these proposed companies after providing the Governor of California and Joint Intervenors in the pending operating license proceeding 15 days for comment.

Qualifications of Companies Proposed
To Conduct Independent Reviews

A description and discussion of the corporate qualifications of the company or companies that PG&E would propose to carry out the independent design verification program discussed in 1 above, including information that demonstrates the independence of these companies.

3. As soon as practicable following NRC approval of the company or companies to conduct the independent design verification program, the following information shall be provided for NRC review and approval. NRC will make its decision on the acceptability of the program plan after providing the Governor of California and Joint Intervenors in the pending operating license proceeding 15 days for comment.

Program Plan For The Design Verification Programs

A detailed program plan for conducting the design verification programs discussed in 1 above. The

information provided should include the bases for the criteria proposed to be used for selection of a suitable number and type of sample calculations to be performed under these programs and the bases for the criteria proposed to be used for expanding the sample size based upon the results of the initial samples.

4. Status Reports

Starting on Friday, November 27, 1981, and continuing while the suspension is in effect, a semi-monthly status report on the second and fourth Friday of each month, on all of the ongoing reanalyses efforts and design verification programs being conducted by and for PG&E, including but not limited to the program referred to in paragraph 1, should be submitted to the Regional Administrator, Region V and the Director, Office of Nuclear Reactor Regulation.

5. NRC Review

Prior to authorization to proceed with fuel loading, the NRC shall be satisfied with the results of the seismic design verification program referred to in paragraph 1, and with any plant modification resulting from that program that may be necessary prior to fuel loading. The NRC may impose additional requirements prior to fuel loading necessary to protect health and safety based upon its review of the program or any of

the information provided by PG&E pursuant to paragraph 4. This may include some or all of the requirements specified in the letter to PG&E, dated November 19, 1981.

November 19, 1981

SEPARATE DISSENTING OPINION OF COMMISSIONER ROBERTS

I agree with the reverification program imposed on PG&E in this Order. I disagree, however, with two aspects of the action taken by the majority of the Commission today. First, I believe that suspension of the Diablo Canyon fuel load and low power license, without the opportunity for a prior hearing and the opportunity to cure provided by the Atomic Energy Act, the Administrative Procedures Act, and the Commission's regulations, is unwarranted in light of the minimal threat to the public health and safety that exists at this time and in light of the Commission's duty to exercise its emergency remedial powers responsibly. Second, I believe that the procedures outlined in this Order calling for the comments of adversary parties to the operating license proceeding on (1) the companies proposed by PG&E to undertake the reverification program and (2) the scope and acceptability of the proposed reverification program evidence an abnegation of the Commission's responsibility to use its technical expertise to assess independently and impartially any errors that may have occurred at the facility.

While there is no question that the Commission may suspend a license for false statements in the license application or for a violation of the Commission's regulations, the Commission has, in the past, held itself to a standard of exercising its emergency powers carefully and with due regard for taking action commensurate with the magnitude of the risk posed to the public health and safety. This is so because emergency actions "can radically and summarily affect the rights and interests of others, including licensees and those who depend on their activities." Licensees Authorized to Possess or Transport Strategic Quantities of Special Nuclear Material, CLI-77-3, 5 NRC 16, 20 (1977). Thus, in the past, "the Commission has said that if risks to the public are identified, the Commission must determine their magnitude and take appropriate remedial action." Petition for Emergency and Remedial Action, CLI-78-6, 7 NRC 400, 405 (1978) (emphasis added). Violation of a regulation does not, by itself, result in a requirement that a license be suspended. Id.

A wide range of remedial actions are available to the Commission. In this case, the Commission could have continued to rely on PG&E's written commitment not to take actions authorized by its license until PG&E had completed to the Staff's satisfaction the program required by

the Staff.^{1/} Alternatively, the Commission could have inserted a technical specification^{2/} or a license condition into the license to prevent fuel load. Finally, the Commission could have provided PG&E an opportunity for a prior hearing and an opportunity to cure before deciding whether to suspend the license.

In order to illustrate the severe and precipitous nature of the Commission's decision to suspend, it is important to note some of the facts before the Commission but omitted from the majority opinion. An underpinning of the Commission's September 21 Order authorizing issuance of the fuel load and low power license is the low risk that would be entailed by activities under this license. At present, fuel has not yet been loaded into the Diablo Canyon Unit 1 core and PG&E has committed in writing not to commence fuel load until it has received the concurrence of the Commission's Staff. Additionally, the Commission has two resident inspectors assigned to the site to monitor PG&E's activities. As the fuel intended for Unit 1 has not been loaded into the core and as assurance exists that it will not be loaded until satisfactory resolution of the present issues, minimal risk to the public exists at the present time.

1/ It is not the Commission's experience that licensees have taken action contrary to a written commitment such as that involved here. This is due, in part, to the Commission's extensive power to take summary action if a licensee rescinds its commitment. To illustrate this, I note that the Commission recently filed a motion opposing a request for an injunction of the Diablo Canyon low-power license in Jaffer v. Brown, No. 81-5878 (9th Cir., filed November 4, 1981) which stated: "The discovery of a series of errors in portions of the engineering analysis has forced deferral of the implementation of the low-power license by Pacific Gas and Electric. No action under the license will be undertaken until problems at the facility are resolved to the NRC's satisfaction." Thus, as a practical matter, the Commission's reliance on PG&E's written commitment is not unreasonable and the Commission has so stated in court as recently as November 10.

2/ To the extent that the Commission needs to take any legal action, it is important to note that under the present technical specifications and license, the risk to the public is minimal because PG&E can load fuel but cannot change the plant status to above a cold shutdown condition (Mode 5). This is because of Section 1.19 of the Diablo Canyon Unit 1 Technical Specifications which provides the following definition of OPERABLE-OPERABILITY:

A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s) and when all necessary attendant instrumentation, controls, electric power, cooling and seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s). (footnote continued)

With regard to my second point of disagreement, the Commission has decided to request the comments of adversary parties to the operating license proceeding on (1) the companies proposed by PG&E to implement the reverification program and (2) the scope and acceptability of the reverification program. The Commission is under a duty as an independent regulatory agency to identify any errors which may have been made, to assess what risk, if any, to the public health and safety exists, and to determine what measures need to be taken so that the Commission has reasonable assurance that the public health and safety is protected. Incorporation of adversary parties into this reverification process is an abnegation of the Commission's responsibility to fulfill its duties independently and impartially.

2/ (continued)

In view of the above definition and references to it throughout the Limiting Conditions For Operation in the Unit 1 Diablo Canyon Technical Specifications, the licensee is legally precluded from entering into operational modes above cold shutdown (Modes 1, 2, 3 and 4) because systems technically affected by the seismic design error would not meet the definition for OPERABLE-OPERABILITY. For example, the supports for the containment fan coolers which may be affected by the mirror image error are addressed in section 3.6.2.3 "Containment Cooling System." This section reads as follows:

At least two independent groups of containment fan coolant units shall be OPERABLE with a minimum of two units to one group and one unit to the other group.

Since, in view of the known potential design errors, the Containment Cooling System might not be capable of performing its specified function. Therefore, the licensee would be legally obliged to remain in a cold shutdown condition.