

March 24, 1976

Docket Nos. 50-275
and 50-323

Honorable Philip Hart
United States Senate

Dear Senator Hart:

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I am pleased to respond to your memorandum of March 2, 1976 which forwarded the letter of your constituent, Ms. Jill Greenberg, dated February 10, 1976.

Ms. Greenberg expressed concerns primarily about the seismic design of the Diablo Canyon Nuclear Power Plant. Although construction of the first unit at the Diablo Canyon site is essentially complete, the plant is not operating. Operation of the plant will not be authorized until the seismic questions discussed by Ms. Greenberg have been thoroughly evaluated by the Commission and any actions which may be necessary to ensure an acceptable level of safety have been taken. This evaluation is in progress. Further details are presented in the enclosure.

Ms. Greenberg's letter indicates a belief that this matter is of tremendous concern to Mr. Robert Pollard, who recently resigned his employment with the Commission's staff in protest to Commission practices. Mr. Pollard's protests and the Commission's detailed responses have recently been presented to the Joint Committee on Atomic Energy. However, I would like to point out here that Mr. Pollard was not involved in the evaluation of this particular matter. Furthermore, to our knowledge, his remarks on this matter have been limited to one sentence in his testimony before the Joint Committee. The sentence, which briefly describes the situation, appears as one of a number of questions which Mr. Pollard was recommending for independent evaluation by the General Accounting Office.

Ms. Greenberg advocated immediate action to halt the operation of reactors located in earthquake zones. The Commission's regulations set forth procedures which result in the safety related portions of a nuclear power plant being designed to withstand the largest earthquake that can be expected to occur at the plant's location in an indefinitely long period of time. The safety related portions

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include not only the components which contain significant amounts of radioactivity, but they also include the features which, in the event of a postulated significant accidental release from those components, function to contain the radioactivity and limit releases to the environment to acceptable values. Thus, nuclear power plants are designed such that an earthquake cannot be expected to result in a significant release of radioactivity to the environment.

Finally, Ms. Greenberg advocated more research on nuclear safety. The Commission currently has a budget of about \$110 million per year for nuclear safety research of this type. This has been increased from a level of \$67 million last year and \$122 million has been requested for fiscal year 1977. In addition private industry performs nuclear safety research and the Energy Research and Development Administration conducts related work such as the development of waste disposal methods. In a somewhat related matter the Commission published the results of its Reactor Safety Study in October 1975. The object of this extensive study was to make a realistic estimate of the risks associated with the operation of commercial nuclear power plants. The results indicated that the risks associated with the operation of 100 such plants in the United States are several orders of magnitude less than the risks associated with either natural events or other man caused events.

I trust you will find this information responsive to Ms. Greenberg's concerns. I am returning Ms. Greenberg's letter as you requested.

Sincerely,

William J. Dircks
Assistant Executive Director
for Operations

Enclosures:

1. Diablo Canyon Seismic Evaluation
2. Ms. Greenberg's letter dated February 10, 1976

SEE PREVIOUS YELLOW FOR PREVIOUS CONCURRENCES
(Changed per ELD 3/18/76)

OFFICE ➤	DPM: LWR #3	DPM	NRR	NRR	EDO	OCA
SURNAME ➤	Dallison:mt	RSBoyd	ECCase	BCRusche	LVGossick	SKK
DATE ➤	3/18/76	3/19/76	3/19/76	3/19/76	3/22/76	3/24/76

ENCLOSURE

DIABLO CANYON SEISMIC DESIGN EVALUATION

The Diablo Canyon Nuclear Power Plant is located on the Pacific Coast about 12 miles from San Luis Obispo, California. Construction is essentially completed for the first of the two units at this site. The owner, Pacific Gas and Electric Company, applied for an operating license in 1973. The Commission's staff is currently evaluating the operating license application. This evaluation, which is now nearing completion, has been delayed nearly two years by considerations associated with the Hosgri fault.

The present situation presents no risk to public safety since the reactors have never operated and do not have operating licenses. New fuel for the reactors is being stored at the plant. The Commission's staff has evaluated this storage and determined that it involves no significant risk to public safety even if the largest of earthquakes should occur. *This conclusion was affirmed by the Atomic Safety and Licensing Board following public hearings on the matter.* Before operating licenses can be issued, all actions necessary to demonstrate an acceptable level of safety will be required. Further details concerning the operating license evaluation are presented below.

Construction permits were issued in 1968 and 1970 for Units 1 and 2, respectively, at the Diablo Canyon site. Based on the investigations conducted at that time the plant was designed to withstand the following earthquakes:

- (1) A great earthquake of magnitude 8.5 along the San Andreas fault 48 miles from the plant.
- (2) A major earthquake of magnitude 7.25 along the Nacimiento fault 20 miles from the plant.
- (3) A major earthquake of magnitude 7.5 along the off-shore extension of the Santa Ynez fault 50 miles from the plant.
- (4) An aftershock of magnitude 6.75 not associated with a known fault 6 miles from the plant (directly under the plant at a depth of 6 miles).

After the construction permits were issued, offshore investigations conducted by Shell Oil Company showed the existence of a fault which had previously been unmapped. This is the Hosgri fault which runs

offshore from the vicinity of Point Sal on the south to Point San Simeon on the north and passes within about 3 1/2 miles of the Diablo Canyon Nuclear Power Plant at its closest approach. (One small splay of the fault passes within 2 1/2 miles of the plant). ~~There is evidence indicating that the fault may extend further southward from the vicinity of Point Sal and that it may connect with the San Simeon fault extending further to the north past Point San Simeon.~~

Since the beginning of the operating license review, Pacific Gas and Electric Company has conducted additional investigations and submitted extensive information on the characteristics of the fault, its capabilities for producing earthquakes and the ability of the plant to withstand earthquakes which are more severe than those considered in the original design. The Company has proposed considering the Hosgri fault capable of producing an earthquake of magnitude 6.25. Since this earthquake would result in somewhat more severe ground shaking than the original design earthquakes, the Company has performed additional analyses in order to demonstrate that the plant could safely withstand such an earthquake.

The U. S. Geological Survey, which is acting as a consultant to the Commission's staff in this review, has also conducted extensive investigations concerning the characteristics and capabilities of the Hosgri fault. The Survey has recommended considering the Hosgri fault capable of producing a larger earthquake than the magnitude 6.25 earthquake proposed by Pacific Gas and Electric. This general recommendation was made by the Survey and published by the Commission's staff in January 1975. In January 1976, after considerable further study, the Survey made a tentative specific recommendation that the Hosgri fault should be considered capable of producing an earthquake with a magnitude in the range of 7.0 to 7.5. This recommendation is based on the Survey's opinion that the fault is longer than Pacific Gas and Electric Company believes it is or, alternately, that the 1927 earthquake of magnitude 7.3 could have occurred on the Hosgri fault.

The Commission's staff has not made final conclusions concerning the capability of the Hosgri fault for producing an earthquake or the plant's capability for withstanding such an earthquake. Considering an earthquake of magnitude 7.0 to 7.5 on the Hosgri fault requires further analysis to determine the effects of such an earthquake and what modifications would be necessary to withstand such an earthquake. The analysis for an earthquake of that size at this distance from the plant would be unique in several respects. The Commission's staff

is actively pursuing an analysis of the effects of a magnitude 7.0 to 7.5 earthquake as well as considering the different interpretations of geological data.

In addition to its own technical expertise in the fields involved here, the Commission's staff has the assistance of capable consultants, including the U. S. Geological Survey. Furthermore, when the staff's evaluation is completed these matters must be considered by other bodies before an operating license can be issued. They will first be evaluated by the Advisory Committee on Reactor Safeguards. Then the Atomic Safety and Licensing Board will hold public hearings near the plant site. At these hearings the Board will consider the evidence and recommendations presented by Pacific Gas and Electric Company, the Commission's staff, the Advisory Committee on Reactor Safeguards and other parties, including the State of California and interested citizens, before making a decision concerning an operating license. *This decision will then be reviewed by the Atomic Safety and Licensing Appeal Board*

United States Senate

MEMORANDUM

March 2, 1976

A communication attached from:

Ms. Jill Merbe Greenberg
Smith College Junior Year in Italy
Piazza Antinori 2
Firenze, ITALY

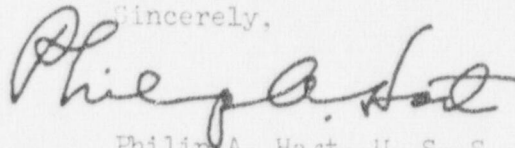
Respectfully referred to:

Mr. Carlton C. Kammerer, Director
Office of Congressional Affairs
Nuclear Regulatory Commission
Washington, D.C. 20555

for such consideration as the communication
transmitted herewith may warrant and for a report
thereon, in duplicate to accompany return of
the enclosure.

Your assistance in this matter will be appreciated.

Sincerely,



Philip A. Hart, U. S. S.

re: Diablo Canyon Nuclear Plant; status of
licensing procedure and consideration
of points raised by Ms. Greenberg

PLEASE RETURN CONSTITUENT CORRESPONDENCE

cdg

Rec'd Off. Dir.

3/8/76

Turn 8:30

Miazza Antinori 2
Firenze, Italia
February 10, 1976

Senator Philip Hart
Senator of the State of Michigan
United States Congress
Washington District of Colombia

Dear Senator Hart,

I have spent much time and energy in the past to encourage the United States government to exercise its power to limit the dangerous and alarming construction of nuclear facilities in the United States. I am a constituent from the State of Michigan and have previously appealed to you as my Senator to encourage an immediate ban on further construction of nuclear reactors as well as initiating further research programs into the hazards of Nuclear Energy, and the protective measures necessary for a truly safe and effective energy source. I write this time not merely to express my extreme dismay that so little has been accomplished, but to demand that immediate action now be taken to halt operation of reactors which are located in earthquake zones. The Nuclear Regulatory Commission is to decide by March 1, the future of not just the Diablo Canyon Reactor, but the future of the international community as well. This plant is currently the subject of tremendous concern not merely on the part of environmentalists but also a high ranking official of the NRC, has recently resigned in protest of the dangerous risks involved in the American use of Nuclear Energy.

The Nuclear reactor plant at Diablo Canyon is built about 12 miles from San Luis Obispo. At the time construction was begun it was established that this reactor was to be built some 49 miles from the San Andreas fault and approximately 20 miles from the Rinconada fault. To support this reactor in case of earthquake, precautions were taken that would hopefully fortify the reactor in any earthquake that registered up to 6.75 on the Richter scale. In 1974, Shell Oil Co. found an underwater fault that is 2.5 miles from the Diablo Canyon plant. Recent studies by United States Geologists have revealed that this fault is probably responsible for an earthquake in 1927 that reached 7.25 on the Richter scale. The Pacific Gas and Electric Company rebates these findings, their claim remains that a more distant fault caused the quake of 1927. The Nuclear Regulatory Commission is to decide whether to grant a license for operation to the Diablo Canyon Plant. I strongly urge you to exert as much influence as possible to stop further use of this plant and to forbid the construction of nuclear reactors in such dangerous and controversial locations! I further urge you to encourage a delay in the construction of all Nuclear Energy reactors until such a time when our knowledge is more highly developed so that such concerns as these need not cause widespread concern by the public. The Nuclear Regulatory Commission is to decide not just the immediate future of that particular plant, but the future of both Nuclear Energy as a safe and feasible means of energy, and that of the countless number of lives which would doubtlessly suffer in case of an error by the NRC.

I implore you, as my Senator, to take action immediately and anxiously wait a response. Thank you for your time

Sincerely,
Will Forde, Greenboro