

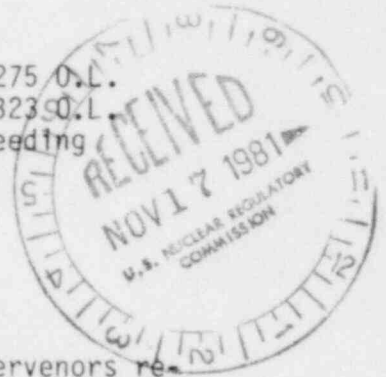
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
PACIFIC GAS AND ELECTRIC COMPANY)
)
(Diablo Canyon Nuclear Power Plant)
Unit Nos. 1 and 2)

Docket Nos. 50-275 O.C.
50-323 O.C.
Full Power Proceeding



NRC STAFF RESPONSE TO JOINT INTERVENORS'
THIRD SET OF INTERROGATORIES AND REQUEST
FOR PRODUCTION OF DOCUMENTS

The interrogatories presented to the Staff by Joint Intervenors requested that each interrogatory be answered in 4 parts. The Staff has labeled the responses A through D, corresponding to Joint Intervenors' request. The Staff objects to Part D(2) of the interrogatories. Any summary of the witnesses' testimony would be privileged as trial preparatory material. See Kansas Gas and Electric Co. (Wolf Creek Nuclear Generating Station, Unit 1), ALAB-327, 3 NRC 408 (1976). Further, since at present no such summaries exist, requiring the Staff to compile data and create such a summary is objectionable. See 4A Moore's Federal Practice, §33.20(3). Therefore, throughout this document Part (2) of Subpart D will not be answered. The Staff further notes that Joint Intervenors will have a complete copy of all Staff testimony prior to any hearing.

The responses of the Staff are set forth below.

INTERROGATORY 69

For each of the components, systems, or facilities listed below, state whether you contend that it has been seismically qualified to withstand and continue to function in the event of a 7.5 magnitude earthquake on the Hosgri Fault, and state each and every fact upon which your response is

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based. Include in your response a description of all qualification tests performed, the date of such tests, the persons or entities conducting the tests, and any modifications to the component, system, or facility tested which were made as a result of such testing.

(a) Early Warning System sirens (and related compressors and compressor platforms) located within the Diablo Canyon plume exposure pathway EPZ;

(b) PGandE telecommunications equipment racks, battery racks, antennae, and supports;

(c) mountaintop PGandE Private Microwave System repeaters;

(d) mountaintop UHF and VHF Radio System repeaters located at Davis Peak, Tepusquet Peak, and Tassajera Peak;

(e) Emergency Broadcast System radio transmission towers;

(f) Early Warning System transmitters (located at Davis Peak, Rocky Butte, Cuesta Peak, Morro Bay, San Luis Obispo, and Pismo Beach) and encoders (located at the San Luis Sheriff's Office and the California Department of Forestry);

(g) offsite Emergency Operations Facility and associated cables, wiring, and equipment;

(h) San Luis Obispo County Emergency Operations Center and associated cables, wiring, and equipment;

(i) onsite Technical Support Center and associated cables, wiring and equipment;

(j) radiological monitoring stations;

(k) PGandE onsite meteorological tower and associated cables, wiring, and equipment;

(l) UDAC and associated cables, wiring, and equipment.

Response

A. The NRC Staff is not aware of qualification tests to demonstrate the seismic qualification of items a through l. The onsite Technical Support Center, item i, has been designed to seismic Class I criteria.

B. See Applicant's Emergency Plan, Rev. 3, Para. 7.1.4.1.

C. The Staff and/or independent contractor are not presently engaged in or intend to engage in further research or work which may bear on the issues covered in the interrogatory other than the normal Staff review.

D. (1) John R. Sears and Dean Kunihiro are the experts whom the Staff intends to have testify on the subject matter covered in the interrogatory. Copies of their professional qualifications are in attachments A and B respectively.

(2) See paragraph prior to Interrogatory 69.

(3) John R. Sears has testified:

(a) on emergency planning security in Pacific Gas and Electric Company (Diablo Canyon Nuclear Power Plant, Units 1 and 2), Docket Nos. 50-275, 50-323;

(b) on emergency planning and security in Southern California Edison Company (San Onofre, Units 2 and 3), Docket Nos. 50-361, 50-360 OL;

(c) on emergency planning in a proceeding culminating in Commonwealth Edison Company (Zion Station, Units 1 and 2), LBP-80-7, 11 NRC 245 (1980);

(d) on emergency planning in Boston Edison Company (Pilgrim Nuclear Generating Station, Unit 2), Docket No. 50-471;

(e) on emergency planning in Long Island Lighting Company (Jamesport Nuclear Power Station, Units 1 and 2), Docket Nos. 50-516,

50-517; and

(f) on implementation of plant operations in Yankee Atomic Electric Company (Yankee Nuclear Power Station), Docket No. 50-209.

Dean Kunihiro has testified:

(a) on security matters in Commonwealth Edison Company (Zion Station, Units 1 and 2), Docket Nos. 50-295, 50-304.

INTERROGATORY 70

With respect to each of the components, systems, or facilities listed in Interrogatory No. 69, state whether you contend that such component, system, or facility need not be seismically qualified to withstand and continue to function in the event of a 7.5 magnitude earthquake on the Hosgri Fault, and state each and every fact upon which your response is based.

Response

A. NRC does not require items a-1 of Interrogatory 69 to be seismically qualified; e.g., NUREG-0696, Functional Criteria for Emergency Response Facilities, February 1981, states "The TSC (Technical Support Center) need not meet seismic Category I criteria or be qualified as an engineered safety feature (ESF)." Following an earthquake, accident assessment and dose projection would continue to be done at the plant. Due to the diversity and redundancy of communications systems and equipment, the NRC Staff considers it to be highly unlikely that all means of communications would be unavailable at the same time. Radio and TV stations outside the seismically affected zone could still broadcast alerting information to the emergency planning zone.

- B. NUREG-0696.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 71

List each and every agreement and/or contract between PGandE and any third party for the provision by such third party of services, assistance, workers, equipment, and/or vehicles for the repair of damage resulting from an earthquake on the Hosgri Fault which accompanies a radiological emergency at Diablo Canyon, and specify precisely:

- (a) whether the agreement and/or contract is formal or informal;
- (b) the party or entity committing to provide such services, assistance, workers, equipment, or vehicles;
- (c) the substance of such agreement and/or contract;
- (d) the type and number of services, assistance, workers, equipment, or vehicles agreed to be provided;
- (e) whether such agreement and/or contract specifically provides for the provision of such services, assistance, workers, equipment, or vehicles when there is a risk of radiation exposure to such workers, equipment, or vehicles;
- (f) the address of the party or entity committing to provide services, assistance, workers, equipment, or vehicles and the location of such equipment or vehicles.

Response

- A. This interrogatory assumes "damage resulting from an earthquake on the Hosgri fault which accompanies a radiological emergency at Diablo

Canyon." The NRC judgment is that an earthquake less than the SSE would result in the reactor shutting down safely, with no radioactive release. However, there might be a potential for radioactive release from non-seismically qualified equipment. Such a release would require minimum protective actions.

The PG&E Emergency Plan lists agreements for assistance during emergencies. San Luis Obispo County would have available state and Federal resources which do not require formal contracts. Joint Interveners have as ready access to the documents as does the Staff. There is no requirement, therefore, that the Staff compile this information to answer this interrogatory. See 4A Moore's Federal Practice, § 33.20(3).

- B. None.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 72

At section 6 of the TERA Corporation Report entitled "Earthquake Emergency Planning at Diablo Canyon," a number of "special tasks that might have to be performed following a major earthquake and radiological emergency" are identified. Included among these tasks are:

- (a) damage reconnaissance;
- (b) emergency repair and/or restoration of key transportation routes;
- (c) clearing debris from key transportation routes;
- (d) coordination with law enforcement agencies for barricading of certain areas;

- (e) procurement and allocation of transportation resources;
- (f) traffic control; and
- (g) evaluation and determination of protective actions to be

taken by nonessential PGandE employees and by the public.

As to each of these individual tasks in the event of a 7.5 magnitude earthquake on the Hosgri Fault, state precisely:

- (1) how many persons would be needed to perform the specified task;
- (2) how many PGandE employees would be available to perform the specified task;
- (3) how many County or State personnel would be available to perform the specified task;
- (4) how many other persons would be available to perform the specified task;
- (5) a list of any and all agreements and/or contracts in which specific commitments have been made to supply personnel;
- (6) every fact upon which your responses to subparts (1) through (5) of this interrogatory are based.

Response

A. As stated in response to Interrogatory 71, the NRC judgment is that offsite protective actions due to a radiological release following an earthquake of 7.5 magnitude on the Hosgri fault would require a minimum response due to radioactivity. Offsite response to an earthquake is the responsibility of governmental agencies and is described in their earthquake response plans. To the extent this interrogatory is capable of being answered, such answers may be sought from documents made available by the Applicant, County and Governor Brown in this proceeding. See Response 71.A., above.

- B. None.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 73

State whether you contend that the TERA Corporation Report cited supra satisfies the NRC Staff's December 16, 1980 request that PGandE provide analyses of the complicating effects of earthquakes on the Diablo Canyon emergency plans, and state each fact upon which your response is based.

Response

- A. Yes. The report describes the possible complicating effects on communication and on transportation.
- B. None.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 74

Describe in detail the specific changes which will be made in the relevant applicant, state and local emergency plans based on the information, findings, and recommendations contained in the TERA Corporation Report cited supra.

Response

- A. The Staff judges that no changes are necessary in the Applicant's plans. Information as to Applicant's response to the report should be sought from Applicant. The TERA report has been transmitted to govern-

mental agencies so they can judge whether changes are indicated in their plans.

- B. None.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 75

Do you contend that sheltering will, under certain circumstances, be a preferable protective action alternative to evacuation? If so, state what those circumstances are and each and every fact upon which your response is based. List each and every study, report, and/or analysis which supports your conclusion.

Response

A. Yes. NUREG-0654, Appendix 1, pages 16 and 17 give specific guidance for state and local authorities for both shelter and evacuation.

Documents which support the NRC Staff conclusion are:

1. Manual of Protective Action Guides and Protective Actions for Nuclear Incidents. U.S. Environmental Protection Agency (EPA-520/1-75-001).
2. Examination of Offsite Radiological Emergency Measures for Nuclear Reactor Accidents Involving Core Melt. Sandia Laboratory (SAND 78-0454).
3. Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants. NUREG-0396, EPA 520/1-78-016. U.S. Nuclear Regulatory Commission, U.S. Environmental Protection Agency.

- B. See Response 75.A.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 76

State where, if at all, in the evacuation times assessment prepared for Diablo Canyon and submitted by PGandE the estimates are adjusted for delays likely to result from "spontaneous evacuation" by persons other than those within a specified evacuation area.

Response

- A. The evacuation times assessment include total evacuation times which cover everyone in the entire area. Consequently, spontaneous evacuation is a part of the total.
- B. None.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 77

On p. 4 of the Staff's response to Joint Intervenors' first set of interrogatories ("Staff Response"), you state that an upgraded meteorological program, an alert system, and a public information system "are now being implemented." Describe in detail the basis for that statement.

Response

- A. The applicant has installed onsite a back-up meteorological tower. The sirens for the early warning system have been installed.

Implementation of the public information program is as follows:

- a) Notification to residents in the LPZ is complete.
 - b) The booklet on emergency planning is under revision and is now scheduled for distribution within the EPZ in February 1982.
 - c) Signs for posting in park areas are awaiting government approval.
 - d) The emergency page for the phone book has been submitted for the next edition of the phone book.
- B. None.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 78

On p. 12 of the Staff Response, you state that the "offsite plans do not specifically address the effect of a major earthquake which occurs simultaneously with a radiological emergency at Diablo Canyon."

(a) State whether you contend that such offsite plans need not consider the complicating factors which might be caused by earthquakes in the development of emergency plans for a nuclear power plant, and, if not, state each and every fact upon which your response is based.

(b) With respect to the San Luis Obispo County plans and the State of California plan, state how such complicating effects are addressed, if at all.

Response

A. a) NUREG-0654, Para. II.J.10., requires offsite plans to consider a variety of measures -- including several relating to communication and transportation under various conditions. The position of the NRC Staff is addressed in the November 3, 1981 memorandum from Brian K. Grimes,

NRR, to John McConnell, FEMA, which has already been provided to all parties.

b) As stated in response to Interrogatory 74, the TERA report has been submitted to governmental agencies so they can judge whether changes are indicated in their emergency plans as a result of the complicating factors which might be caused by earthquakes. To the extent this interrogatory relates to current plans, these are as available to Joint Intervenors as to Staff. See Response 71.A.

B. See Response 78.A., above.

C. See response to Interrogatory 69.C.

D. See response to Interrogatory 69.D.

INTERROGATORY 79

On p. 13 of the Staff Response, you state that "this [communications] equipment is considered to be adequate for communications following an earthquake." Describe in detail the basis for that conclusion and cite each and every study, analysis or test prepared, conducted, or reviewed by you in reaching the conclusion.

Response

A. The communications equipment is redundant and diverse, e.g., there are two telephone cables south from the plant toward Avila Beach, one on each side of the road, and also two cables north from the plant toward Morro Bay. There are two microwave systems which use different equipment, one up the Coast Valley, and the other north via the West Valley system. The radio systems back up the telephone system. The NRC Staff conclusion is that, while it is conceivable that some communi-

cations equipment may be rendered inoperable following an earthquake, it is highly unlikely that nothing would be available.

- B. None.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 80

On p. 13 of the Staff Response, you cite a contract with a helicopter company "to furnish transportation to and from the plant following an earthquake if all other means of transportation are inoperative."

State precisely:

- (a) the factual basis for your conclusion that such a contract will provide an adequate means of transportation to and from the plant;
- (b) the number of helicopters to be provided under the contract on an emergency basis;
- (c) the number of persons which the helicopter(s) in question can transport at one time;
- (d) a description of any and all drills or exercises of which you are aware which support the statement quoted.

Response

A. (a)-(d) The operating crew at the reactor has been trained, and is qualified, to assess and to cope with, an accident; to classify the accident; to project potential offsite doses; to notify offsite authorities. The personnel essential to continue to perform these functions consist of a replacement crew. The replacement crew could be airlifted to the site from the offsite EOF in shuttle trips of a 4-seat helicopter. The guidance in Table B-1 of NUREG-0654 specifies that the on shift crew

should be augmented by addition of 24 personnel at the site. They could also be airlifted to the site in shuttle trips. No specific drills have been performed to demonstrate this capability.

- B. See Response 80.A., above.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 81

Do you contend that the letters of agreement contained in Draft 3 of PGandE's onsite plan comply with all applicable NUREG-0654 criteria and, if so, what is the basis for your conclusion that they satisfy criterion II.A.3? Do you contend that any other agreements are necessary?

Response

- A. Professional judgment and experience are the basis for the conclusion that the letters of agreement contained in Draft 3 of the Applicant's Emergency Plan satisfy NUREG-0654. The NRC Staff judges that other agreements are not required.
- B. None.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 82

On p. 18 of the Staff Response, you cite various methods of public notification. What is the basis for your conclusion that any of the methods cited can be implemented and, if implemented, will be successful in notifying all members of the public? Describe any and all studies

upon which you rely in concluding that the area-wide siren system will successfully cover the plume exposure EPZ.

Response

A. The primary method of alerting people within the EPZ is via the siren system. The siren system has been designed to produce an alerting signal approximately 10 db above ambient noise levels within the EPZ. The level of perception of a dissonant sound is approximately 10 db below ambient. Consequently, the NRC Staff judges that the siren system complies with the guidance in Appendix 3 of NUREG-0654 and is capable of alerting the public in the EPZ.

Documents which support the NRC conclusion include:

Balt, Beronek, Newman, Inc., Outdoor Warning Systems Guide (FEMA CPG-1-17).

- B. See Response 82.A., above.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 83

On p. 21 of the Staff Response, you describe the PGandE public information program.

(a) Describe the proposed implementation schedule for the program.

(b) What, if anything, has been or will be done to inform visitors to the beaches and parks (including Pismo, Cayucos, Morro Strand, and Atascadaero) as required by 10 C.F.R. § 50.47(b)(7)?

Response

A. (a) The implementation schedule for the more significant items in the public information program is described in answer to Interrogatory 77.

(b) It is proposed that signs will be posted in beach and park areas within the EPZ.

- B. None.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 84

On p. 23 of the Staff Response, you refer to the plant conditions listed in Section 4 of the Diablo Canyon onsite plan and the guidance of Appendix 1 to NUREG-0654. Describe any and all training received by PG&E personnel and County personnel in the application of that guidance to determine what protective actions to recommend or order.

Response

- A. All PG&E shift foremen have been trained to operate via written, approved procedures. Emergency Procedure G 1, Accident Classification and Emergency Plan Activation, gives specific guidance to the Emergency Coordinator on shift to classify the accident and to notify offsite authorities promptly. Emergency Procedure RB-10 describes the mechanism for recommending protective actions to offsite authorities and includes the bases for the choice of the recommendation. Understanding of these topics by offsite authorities as a result of previous coordination with PG&E was demonstrated during the full scale exercise of August 1981.
- B. I&E Inspection Report on August 19, 1981 exercise, which has been provided to all parties.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 85

On p. 26 of the Staff Response, you note that San Luis Obispo County has prepared certain emergency plans. What efforts have been made specifically to coordinate PGandE's emergency response organization with all officials responsible for local emergency preparedness and response in the jurisdictions cited in Joint Intervenors' Interrogatory No. 25?

Response

- A. The culmination of the efforts to coordinate PG&E's and local officials' emergency response occurred in the August, 1981 full-scale exercise. Critiques following the exercise pointed out areas for improvement, but there was agreement that the coordination between the organizations involved was well above the satisfactory level.
- B. See Response #4.B., above.
- C. See response to Interrogatory 69.C.
- D. See response to Interrogatory 69.D.

INTERROGATORY 86

With respect to the TERA Corporation Report entitled "Earthquake Emergency Planning at Diablo Canyon," state whether you contend that the maximum acceleration at the plant postulated for purposes of that report is properly calculated as less than the .75g acceleration postulated for the SSE in the Diablo Canyon seismic proceeding, and, if so, state each and every fact upon which your response is based.

Response

A. .75g acceleration is the design value for systems and components of the reactor judged by the NRC to be essential to safe operation and shutdown of the reactor.

The NRC Staff judges that the assumptions in the TERA report are responsive to the request by the NRC that the Applicant consider the complicating factors that might result from an earthquake.

B. November 3, 1980 letter from Brian K. Grimes, NRR, to John McConnell, FEMA, which has already been provided to all parties.

C. See response to Interrogatory 69.C.

D. See response to Interrogatory 69.D.

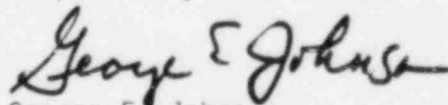
Request for Production of Documents

1. All documents identified in, relied upon, or relevant to the responses to Interrogatory Nos. 69-86 supra.

Response

All documents responsive to this request have already been provided to the parties in this proceeding, or are available to members of the public.

Respectfully submitted,



George E. Johnson
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 16th day of November, 1981.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

PACIFIC GAS AND ELECTRIC COMPANY

(Diablo Canyon Nuclear Power Plant
Unit Nos. 1 and 2)


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Docket Nos. 50-275 O.L.
50-323 O.L.

AFFIDAVIT OF JOHN R. SEARS

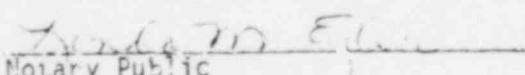
I, John R. Sears, being duly sworn, state as follows:

1. I am employed by the U.S. Nuclear Regulatory Commission as a Senior Reactor Safety Engineer, Emergency Preparedness, Office of Inspection and Enforcement.
2. I am duly authorized to participate in answering Interrogatories 69 through 86 and I hereby certify that the answers given are true to the best of my knowledge.



John R. Sears

Subscribed and sworn to before me
this 11th day of November, 1981



Notary Public

My Commission Expires: July 1, 1982

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

PACIFIC GAS AND ELECTRIC COMPANY

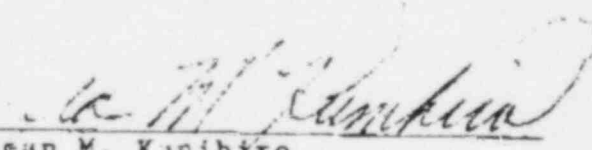
(Diablo Canyon Nuclear Power Plant
Units Nos. 1 and 2)

Docket Nos. 50-273 O.L.
50-32- O.L.

AFFIDAVIT OF DEAN M. KUNIHIRO

I, Dean M. Kunihiro, being duly sworn, state as follows:

1. I am employed by the U.S. Nuclear Regulatory Commission as Regional State Liaison Officer, Office of Inspection and Enforcement.
2. I am duly authorized to participate in answering Interrogatories 69 through 86 and I hereby certify that the answer given is true to the best of my knowledge.



Dean M. Kunihiro

Subscribed and sworn to before me
this 20th day of October, 1981



Notary Public

My Commission Expires: 4-2-84



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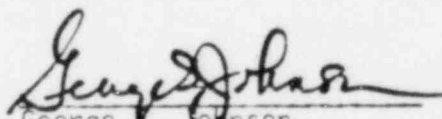
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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555 *

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