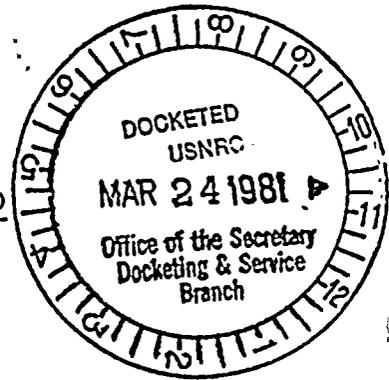
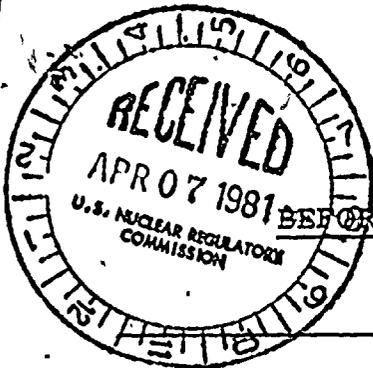


UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD



3-19-81

In the Matter of)

PACIFIC GAS AND ELECTRIC COMPANY)

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

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

(Low Power Proceeding)

RESPONSE OF GOVERNOR EDMUND G. BROWN, JR.
TO FIRST SET OF INTERROGATORIES
OF PACIFIC GAS AND ELECTRIC COMPANY

On February 28, 1981, Applicant Pacific Gas and Electric Company ("PG&E") propounded interrogatories to Governor Brown. We hereby respond to those discovery requests.

At the outset, we note that in many respects, the PG&E interrogatories request information already supplied by Governor Brown in a March 16, 1981 filing entitled "Response of Governor Edmund G. Brown, Jr. to NRC Staff Requests for Admissions and Interrogatories" (hereafter, the "Response to Staff"). Accordingly, while we hereafter answer PG&E's interrogatories, sometimes incorporating data from the Response to Staff, we also call PG&E's attention the the March 16 filing where additional explanation and information are supplied.

Interrogatory 1.

Is it your position that the combined Applicant, State and local emergency response plans must fully comply with the Commission's

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revised emergency planning regulations, effective November 3, 1980 ("Final Regulations on Emergency Planning," 45 Federal Register 55402, (August 19, 1980), in order for there to be reasonable assurance that fuel-loading and low-power testing activities can be conducted at Diablo Canyon without endangering the health and safety of the public?

Response.

Yes. In addition, even if only compliance with the prior regulatory requirements were the applicable standard, it is our position that low power testing could not be authorized because certainly the local emergency plan which might be in effect during low power testing could not be implemented and therefore is not in compliance with even those prior regulations. In this regard, see Response to Staff at 18-20, 21-22, 23-26.

Interrogatory 2.

If the answer to Interrogatory 1 is yes, specify in detail the basis for, and identify each and every fact in support of your answer. Identify all documents relating to your answer.

Response.

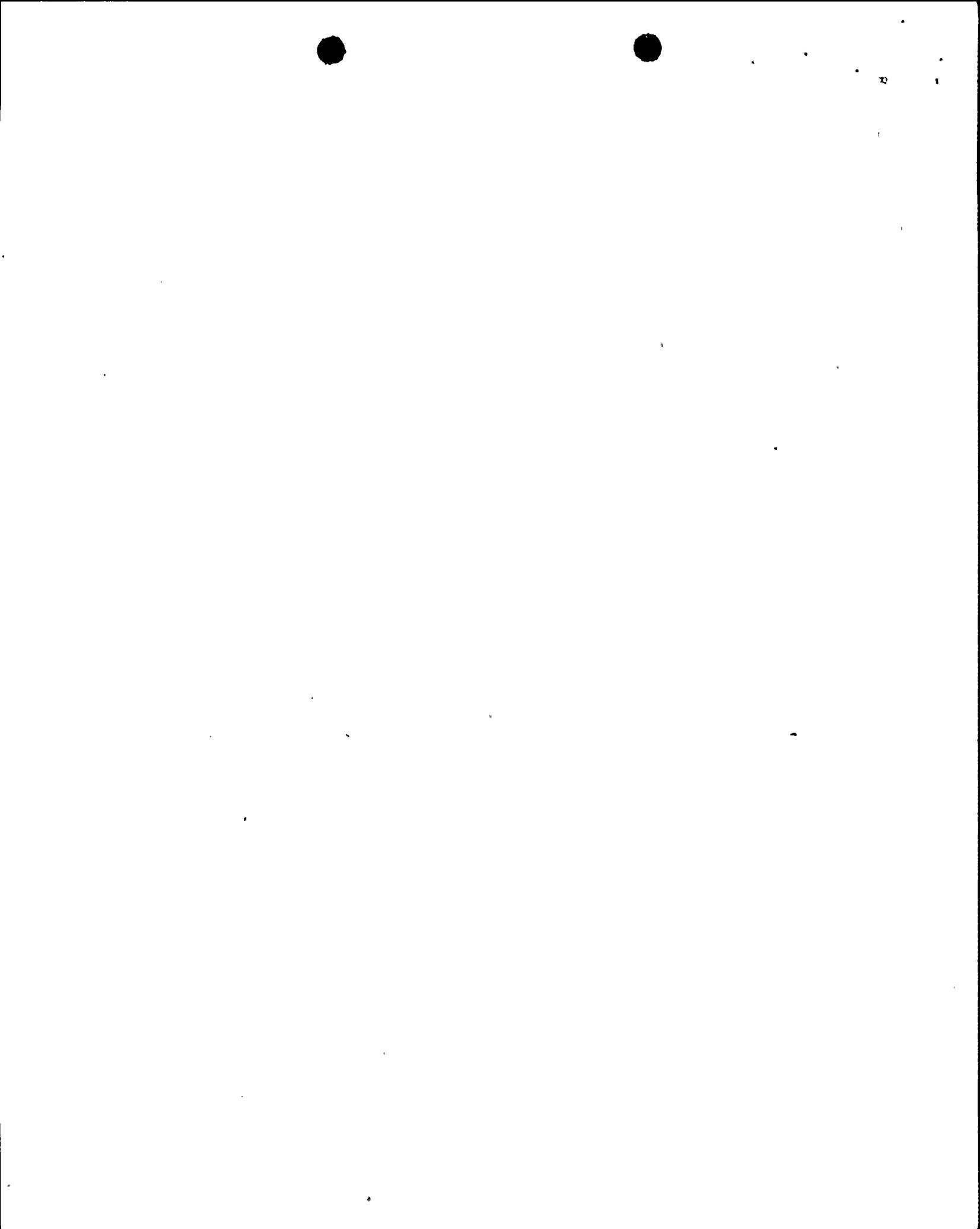
This requirement is articulated in NUREG-0737, Enclosure 2, in the August 19 regulations themselves, and is implicit in NUREG-0654. Further, since it has not been demonstrated that an accident during low power testing would have no offsite consequences



(see Response to Staff at 11-17), it is prudent and appropriately conservative to require that the emergency plans in effect at Diablo Canyon satisfy current regulatory requirements. In addition, it would be a serious error, in our view, to permit Diablo Canyon to operate, even at low power, before there has been a demonstration that state, local and PG&E emergency plans are in compliance with the August 19 regulations and can, in fact, be implemented, i.e., there is adequate preparedness.

The need for emergency plans and preparedness in compliance with the August 19 regulations is emphasized by the state of the current local plan. See Response to Staff at 18-20, 21-22, 23-26. For example, the present county emergency plan was developed for the low population zone (LPZ) around the Diablo Canyon facility and used criteria no longer deemed appropriate by the NRC. Under 10 C.F.R. 50, Appendix E, the NRC presently requires all emergency plans to meet the criteria specified in NUREG-0654. Furthermore, in 10 C.F.R. 50, Appendix E, the NRC acknowledges that while for smaller reactors the size of the planning area may be reduced, the plans must still satisfy the criteria of NUREG-0654. It follows that the LPZ plan for Diablo Canyon does not meet present criteria and must be deemed inadequate by the NRC.

In addition, no full-scale test of the LPZ plan has been conducted to demonstrate it could be successfully implemented. The fact is that based on present county preparedness, the plan probably cannot be implemented. Recent contacts with county personnel confirm this lack of preparedness. Given this condition,



any requirement other than full compliance with current regulatory standards would be inconsistent with the NRC's responsibility to protect the health and safety of the public.

Interrogatory 3.

Is it your position that the Applicant, State, and local emergency response plans fail to comply with the Commission's revised emergency planning regulations?

Response.

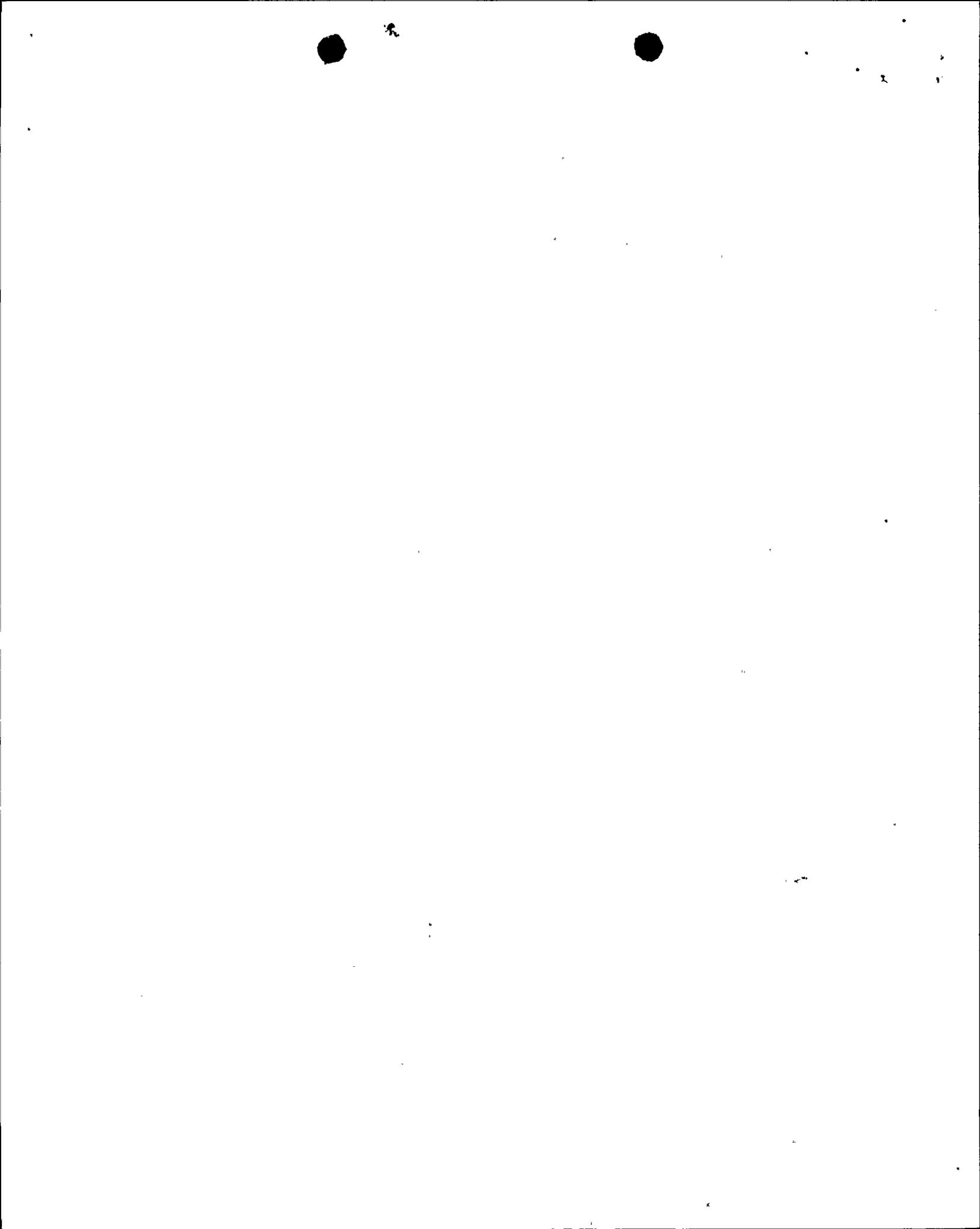
Yes. See, e.g., SER, Supp. 12; PG&E Feb. 27, 1981 letter to Mr. Denton; Staff Response to Joint Intervenor's Interrogatories, pg. 7; PG&E March 12, 1981 letter to Mr. Miraglia; California Senate Bill No. 1183.

Interrogatory 4.

If the answer to Interrogatory 3 is yes, specify in detail each and every deficiency in the Applicant, State and local emergency response plans. Identify each and every fact and document relied upon in responding to this Interrogatory.

Response.

The basic deficiency is that the integrated State, local and PG&E plans under the August 19 regulations have not even been submitted for NRC or FEMA approval. Indeed, the State plan is not available in final form and the local plan is barely in draft form. Given the lack of plans, it is impossible to respond to this



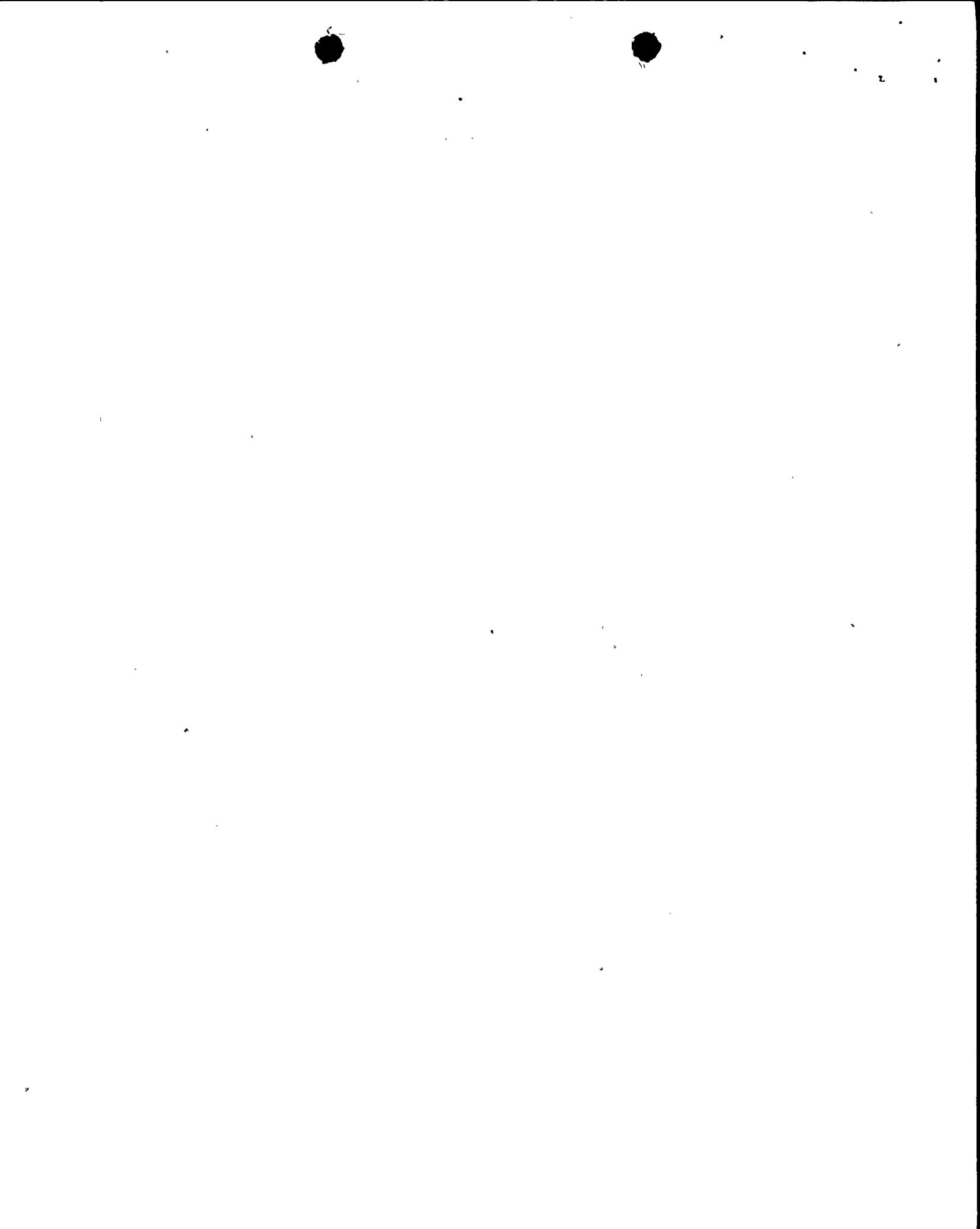
Interrogatory: without revised plans, particular deficiencies, of course, cannot be specified. We do note below, however, certain specific deficiency areas (the references are to portions of 10 C.F.R. §50.47).

Provision (a) (1)

The NRC has reviewed, but has not approved the licensee's on-site emergency plan. Specific shortcomings have been identified and comments thereon forwarded to the licensee; to our knowledge no response has been supplied which satisfies regulatory requirements. No revised PG&E plan has been submitted subsequent to the effective date of the new regulations. Indeed, the "plan" we have been furnished dates from February 1980. In addition, no specific implementing procedures in support of the plan have been provided by the licensee for NRC review. Moreover, no finding has been made by the NRC or FEMA regarding the state of offsite emergency preparedness. Accordingly, there is no reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency at Diablo Canyon. Such measures must be available, even in response to a low power accident, and training and implementation designed to accomplish these goals must be instituted.

Provision (a) (2)

FEMA has not reviewed the present county plan with reference to NUREG-0654 and has received no revised plan which purports to comply with the new regulatory requirements. Indeed, it is our



understanding that such a revised plan is still only in the preparation process. In addition, the State of California Nuclear Power Plant Emergency Response Plan is being revised to meet new criteria and is presently only in draft form. As a consequence, it has not been reviewed by FEMA to assure conformance with NUREG-0654.

Provision (b) (1)

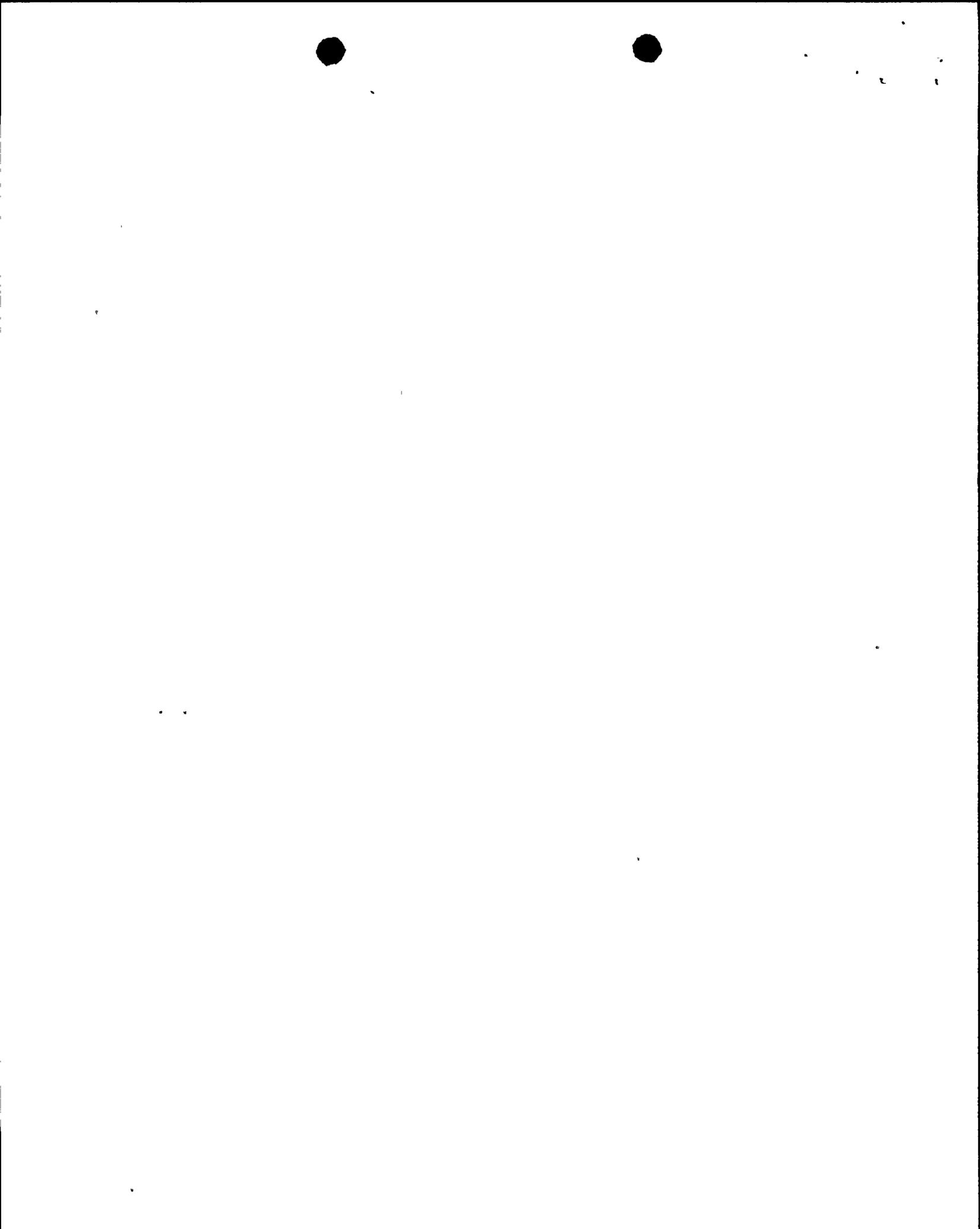
Even assuming that the current county plan is adequate under the guidance provided in NUREG-75/111 (which we dispute), the revised criteria in NUREG-0694 have so broadened the scope of activities that neither the assignments made nor the staff available are sufficient.

Provision (b) (2) and (b) (3)

The interface between onsite and offsite activities is not adequate. Further, the present plans do not make arrangements for accomodation of state and local staff at the licensee's near-site emergency operation facility. Without proper PG&E/local/state interaction at the EOF, response to an emergency will be fragmented and will limit the ability of response personnel to protect public health and safety. A detailed procedural manual for activation, staffing and operation of the EOF must be prepared and implemented.

Provision (b) (4)

No revised state and local plans exist with which to compare compliance with the regulation. Further, the current local plan does not include quantified release levels based on effluent para-



meters to determine minimum levels of initial offsite response. It is essential that decision makers have some basis for choosing the extent of activation of the emergency response organization, as well as the proper protective action(s) to be taken. There needs to be, as a beginning, an emergency classification scheme which relates in-plant and effluent parameters to offsite activities and protective actions.

Provisions (b) (5) and (b) (7)

Emergency public information is treated in a cursory manner; no communications system exists for notifying the public in the plume exposure pathway EPZ. Instead, the current procedures rely on house-to-house notification by sheriff's department personnel. Moreover, no sample initial messages have been prepared and no mechanism exists to give clear instruction on an emergency basis to the populace within the plume exposure pathway EPZ. The county plan does not address public education at all. The only point of contact with the media in the plan is with the Emergency Broadcast System. Procedures for coordinated release of emergency public information are limited to a single sentence. The lack of effective public information and adequate communications systems make it doubtful that meaningful emergency response could proceed, something which is unacceptable even at low power. A systematic information program must be established and effective communications systems must be implemented.



Provision (b) (6)

The telephone links between DCNF and the state response organization are not functioning. In an emergency, such lack of communications could have an adverse impact on effective response to the emergency. Communications links should promptly be improved.

Provision (b) (8)

The level of emergency equipment and number of emergency facilities required to support emergency response have not been specified. Accordingly, there is no way to ascertain their adequacy. It is essential to effective response for local and state agencies to know in advance the type and amount of equipment necessary for response to a Diablo Canyon accident. A detailed analysis must be prepared and then necessary equipment and facilities procured.

Provision (b) (9)

The methods, systems, and equipment described in the current local plan are based on the requirements of a design basis accident. Their adequacy for response to more severe radiological emergencies has not been determined. The regulation requires that such methods, systems and equipment be "in use." To our knowledge, this is not presently the case. Further, accident consequence assessment by local and state personnel is severely curtailed by lack of adequate monitoring systems and systems for processing data, as well as the lack of trained personnel to operate the equipment and analyze the data. This is significant at any power level, as it evidences a lack of preparedness to respond effectively.



Provision (b) (10)

The current plan does not provide for a range of protective actions: while evacuation of the low population zone (only) is discussed, shelter and iodine prophylaxis are mentioned only in passing. Further, protective actions for the EPZ and the ingestion pathway have yet to be developed. Unless a range of protective actions is provided for, effective response at any power level cannot be assured. Indeed, careful and effective implementation cannot be planned until this range is defined.

Provision (b) (11)

No systematic method for exposure control of field emergency response and monitoring personnel has been established. No exposure forms have been prepared and no system exists for maintaining exposure records.

Provision (b) (12)

Although arrangements have been made for medical services for on-site personnel, adequate offsite plans and facilities for treatment of persons injured onsite or offsite do not exist, as exemplified by statements made by Dr. Howard Mitchell, County Health Officer, in an open meeting in San Luis Obispo County, October 10, 1979. Dr. Mitchell indicated the County is "totally unprepared" to respond to an accident at Diablo Canyon. This situation persists today. Further, French Hospital, the only facility ready to accept radiatic



casualties, has capacity for only three persons. More than this number could be injured, even at low power. PG&E should obtain agreements with each acute care facility to provide emergency assistance to injured, contaminated, and/or exposed members of the PG&E Staff and the public. PG&E also might provide tuition, transportation, and per diem funding for staff from these facilities to attend the Radiological Emergency Assistance Center Training at REACT/S in Oak Ridge. See pg. 19 of Response to Staff.

Provision (b) (13)

The state and local authorities do not have general plans for recovery and reentry. Such plans are essential elements of an effective preparedness scheme to respond in a coordinated manner to emergency situations.

Provision (b) (14)

No full-scale tests have been conducted. Such tests, of course, are an essential element of demonstrating effective emergency preparedness. A detailed plan for and schedule of drills must be prepared, with such drills designed to provide training and upgraded capabilities in each aspect of the state/local/PG&E emergency organization. Specific goals for each drill and for full-scale exercises must be specified so that there is a basis for candid and instructive evaluation of results.



Provision (b) (15)

The training received by offsite emergency response personnel has been limited and, in our view, inadequate. Without such training, no response is possible, even to a low power accident. This situation must be rectified through prompt and thorough implementation of the revised plans.

Interrogatory 5.

For each deficiency specified in the answer to Interrogatory 4, specify whether the deficiency is significant for Diablo Canyon, for purposes of fuel-loading and low power testing, and for each such deficiency specified as significant, explain in detail the basis for such conclusion. Identify each and every fact and document relied upon in responding to this Interrogatory.

Response.

Each deficiency specified in the response to Interrogatory 4 is significant because it impairs the preparedness of personnel and systems to respond to an accident -- any accident. Such response capability is necessary at low power, because the precise emergency cannot be predicted with certainty. See response to Interrogatory 4 for details regarding the significance of deficiencies; Response to Staff at 11-17.

Interrogatory 6.

For each deficiency specified as significant in the answer to Interrogatory 5, specify in detail what measures should be taken by Applicant to compensate for such deficiency.



Response.

See response to Interrogatory 4.

Interrogatory 7.

Is it your position that the combined applicant, State and local emergency response plans fail to comply with the requirements of Sections III.A.1.1. and III.A.1.2. of NUREG-0694?

Response.

Yes.

Interrogatory 8.

If the answer to Interrogatory 7 is yes, specify in detail each and every deficiency in the combined Applicant, State and local emergency response plans relative to compliance with the requirements of Sections III.A.1.1 and III.A.1.2. of NUREG-0694. Identify each and every fact and document relied upon in responding to this Interrogatory.

Response.

A first, basic reason for this view is that the local emergency plan cannot be effectively implemented at this time, thus squarely violating NUREG-0694 requirements. See Response to Staff at 18-26. Further, these requirements are subject to a new implementation schedule. See response to Interrogatory 11.

Further, with respect to item III.A.1.1, we note that NUREG-75/111 has been superseded by NUREG-0654, which states



"FEMA and NRC regard all of the planning standards identified and contained herein as essential for an adequate emergency plan."

(p. 5) The existing county plan and accompanying implementing procedures fail to meet the following planning standards:

"D. Emergency Classification Systems"

The classification system in the current plan is extremely general in nature and is not based on facility system parameters or quantified effluent levels. Moreover, the classes are related to offsite emergency organization activities only in the most general sense. A revised system must be established.

"G. Public Education and Information"

No information has been made available to the public -- including those in the LPZ -- on how they will be notified and what their initial activities should be. No systematic method exists for the periodic distribution of such information. The only media contact point listed is the Emergency Broadcast System stations. Finally, there is no mechanism for establishing coordination of press releases with the utility. Additionally, a series of public education pamphlets should be prepared and other information disseminated to inform the public about the hazards of nuclear radiation, the consequences of nuclear power plant accidents, protective actions to be taken by the public, etc.



"I. Accident Assessment"

Equipment for assessing and monitoring actual offsite consequences is too limited to be adequate for most releases. The current county plan lists 23 sets of civil defense type equipment; this amounts to 1 set for every 7 square miles, even if attention is limited to the 10-mile radius recommended by the NRC. See also Response to Interrogatory 4.

"J. Protective Response"

There is no range of protective response considered in the current county plan. There is no guidance for choosing protective actions during an emergency. The ingestion exposure pathway is not even considered. See also Response to Interrogatory 4.

"K. Radiologic Exposure Control"

Although the current plan provides guidance for limiting the exposure of emergency workers, there is no formal mechanism for ensuring exposure control. No sample exposure records are provided; no system is established for maintenance of exposure records. PG&E should work with local and state officials to create a systematic method for determining, recording, and limiting radiological exposure to emergency workers.



"L. Medical and Public Health Support"

The standards themselves are inadequate in this area. A system should be established for identifying, estimating exposures of, tracking, and providing long-term (decades) medical follow-up and treatment of people contaminated and/or exposed as a result of a nuclear power plant accident. Moreover, the current county plan does not make adequate provision even for short-term treatment of injured and contaminated/exposed members of the public.

"M. Recovery and Reentry Planning and Post Accident Operations"

This planning standard is treated in such a cursory manner as to imply a nuclear power plant accident will not occur. NRC officials have stated this aspect of response can occur on an "ad hoc" basis. However, the experiences of nuclear weapons accidents at Palomares, Spain and Thule, Greenland, clearly indicate that detailed planning is necessary. Levels of decontamination, standards for reentry into residential areas, methods of transport and disposal of radioactive wastes are all problems which must be addressed in recovery and reentry plans. A "general" plan, as required by the standard, is clearly inadequate. In any event, the current county plan does not deal with this important topic at all.

"N. Exercises and Drills"

No major exercise of the current plan has been held. A "table-top" exercise, which occurred approximately



two years ago, served as an initial training vehicle, but no follow-up has been done. See Response to Interrogatory 4.

"O. Radiological Emergency Response Training"

Limited training for nuclear response was performed more than three years ago. No follow-up training has been done. See Response to Interrogatory 4.

With respect to Item III.A.1.2., the emergency support facilities indicated in this section have not been tested for adequacy and operability in the event of a nuclear power plant accident. Moreover, a communications link with the state warning center is not operational. Finally, an evaluation of the possible effects of an earthquake on these facilities and proposed communications links has not been provided to California. Accordingly, there is no assurance of the seismic resilience of these emergency facilities systems.

Interrogatory 10.

Is it your position that the implementation schedule for meeting the requirements of Sections III.A.1.1. and III.A.1.2. of NUREG-0694 were unchanged by NUREG-0737?

Response.

No.



Interrogatory 11.

If the answer to Interrogatory 10 is no, specify in detail what changes to the implementation schedule were made by NUREG-0737.

Response.

NUREG-0737, as well as the August 19 rule, made these items fuel load requirements. Further, NUREG-0737 superseded NUREG-0694.

Interrogatory 12.

Is it your position that the combined Applicant, State and local emergency response plans must fully comply with the requirements of Section III.A.1.2. of NUREG-0694 before fuel-loading and low power testing?

Response.

Yes. See NUREG-0737.

Interrogatory 13.

If the answer to Interrogatory 12 is yes, please specify in detail each and every fact supporting that answer. Identify each and every document relied upon in responding to this Interrogatory.

Response.

See response to Interrogatory 11, and NUREG-0694, pg. 34, which specifies a January 1, 1981 date. See NUREG-0737.



Interrogatory 14.

Identify each requirement for fuel loading of Item II.F.2 of NUREG-0737 which is not met for Diablo Canyon. Identify each and every fact and document relied upon in responding to this Interrogatory.

Response.

The design for a reactor Vessel Level Measurement System presented in "PG&E Response to II.F.2 Instrumentation for Detection of Inadequate Core Cooling" (non-proprietary submittal), transmitted February 6, 1981, is deficient and/or inadequate in its description with regard to the following technical concerns:

- a. The reading of reactor vessel level does not meet the requirement of being unambiguous and easy to interpret. There are conditions where the system is described as providing erroneous or uncertain reading of water level.
- b. The system does not provide coverage for all types of transients or accidents and thus would lead to ambiguous or misleading information to the operator. Specifically, coverage is lacking under conditions of void redistribution, coolant pumps being turned on or off, small breaks in the vessel head, and anticipated transients without scram ("ATWS").
- c. The functional design is not adequately or sufficiently described to ensure that the added instrumentation will actually provide an unambiguous, easy-to-interpret indication under all conditions. This may partially



be the result of large segments of the description and drawings having been excised in an effort to protect allegedly proprietary information. Examples are the description of the information provided to the operator and the functional block diagram of the system, both of which are deleted in the non-proprietary version.

- d. The design has not been fully tested or proven over the spectrum of accident conditions and cannot, therefore, be evaluated as an unambiguous indication.
- e. The applicant's description is unclear as to the number of data processors and the algorithm used to create the displays. If there is only one data processor, it is vulnerable to single failure and/or erroneous indications on each of the redundant displays. If there are two processors, there is no indication of how the operator is to deal with a discrepancy in the two output displays. This is an ambiguous condition which could easily mislead or confuse the operator. The system has two additional points of potential single failure at the vessel penetration points used for sensing pressures for the differential pressure instruments. Plugging or blockage of these points could provide an ambiguous and erroneous indication.



- f. The data processor(s) and the displays are not required to be qualified for seismic conditions which the plant may be expected to experience. Thus, there is no assurance the system will survive a severe earthquake. In the event the data processor fails or one of the redundant displays fails, there is no indication of the failure or which of the redundant display devices the operator is to rely upon.

In addition, there are concerns which relate to the sufficiency of the requirements in II.F.2 to adequately protect the health and safety of the public.

- g. The 0737 requirements for II.F.2 exempt the data processing device and displays from the full qualification requirements applicable to post-accident monitoring equipment. This is not consistent with the need to provide a reliable and unambiguous indication for the operator in post-accident conditions.
- h. The Low Power Tests are described by the Applicant as an opportunity to train the operators in off-normal conditions and post-accident conditions. The water vessel level measurement device is the newest and possibly most important device the operator may need to rely on in an accident condition. To have the level measurement device installed prior to low power testing is consistent with a fundamental purpose of the tests.



Present plans which call for installation after six months of low power testing and operation are not in the best interest of public health and safety or in the interest of ALARA goals for worker exposure.

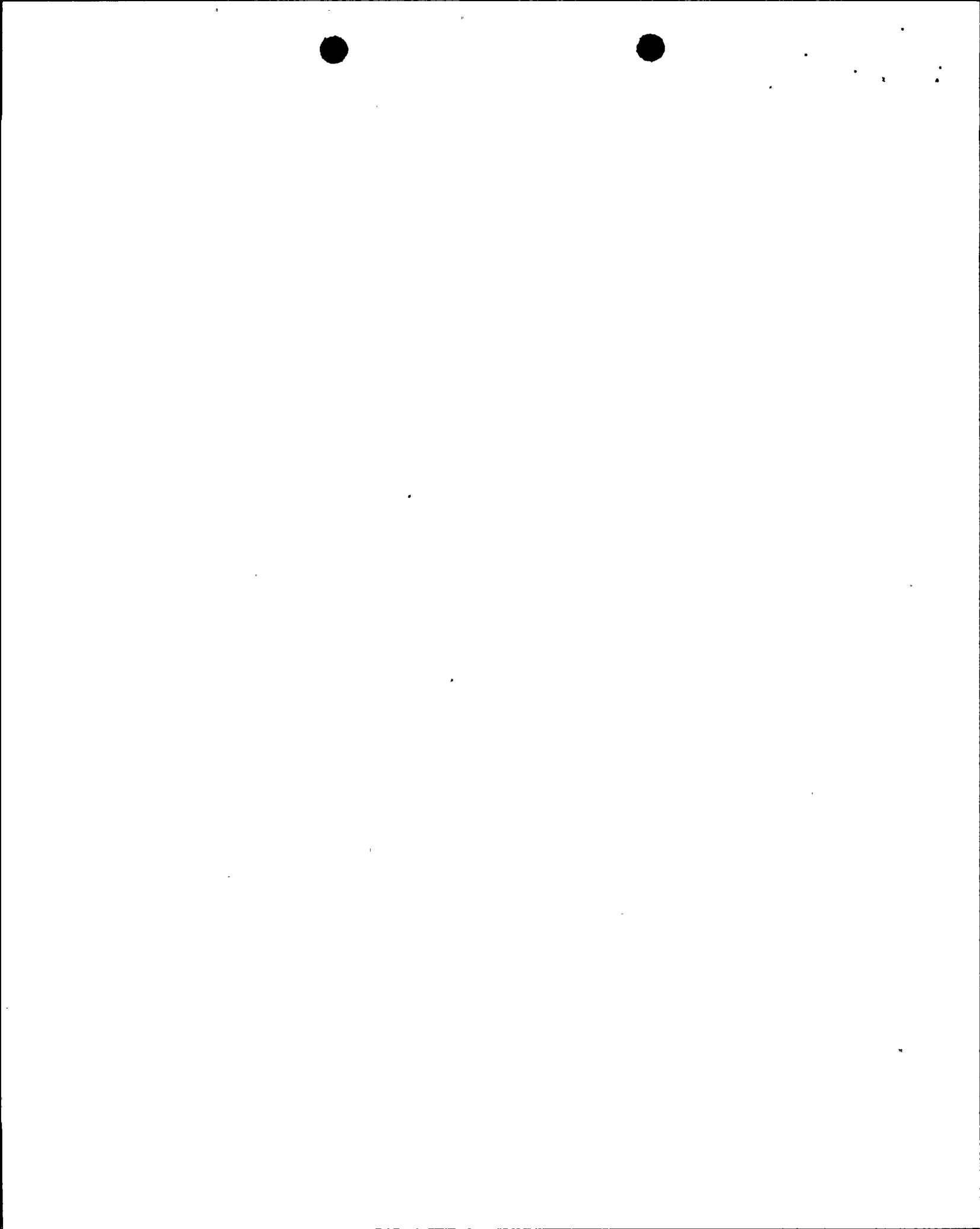
- i. The Vessel Level Measurement System, being basically developmental at this point, has no assurance of operating correctly under all accident and transient conditions. Further, the new level system will not be evaluated or tested for conditions of an ATWS, one of the most severe and potentially damaging transients. Since ATWS is a predictable condition which could occur, it should be one of the transients analyzed for operation of the vessel level measurement system. Thus, there is a need for site-specific testing and evaluation during a period where installation and developmental improvements of the level measurements can be made without the burden of additional worker exposure.

Interrogatory 15.

Is it your position that the additional instrumentation referenced in Item II.F.2 of NUREG-0737 is required prior to fuel loading?

Response.

Yes.



Interrogatory 16.

If the answer to Interrogatory 15 is yes, explain in detail the basis for, and identify each and every fact and document in support of, your answer.

Response.

See response to Interrogatory 14, particularly items 14h and 14i. In particular, we question both the acceptability of the current proposed design, as well as the sufficiency of any schedule that would defer implementation until after low power testing. That would neither be consistent with protection of the health and safety of workers and the public, nor conducive to a sound testing/training program.

Interrogatory 17.

Is it your position that the additional instrumentation referenced in Item II.F.2 of NUREG-0737 must include instrumentation which measures reactor coolant level directly?

Response.

Yes, if the requirement for reliable detection of inadequate core cooling is to be met under all transient and accident conditions.



Interrogatory 18.

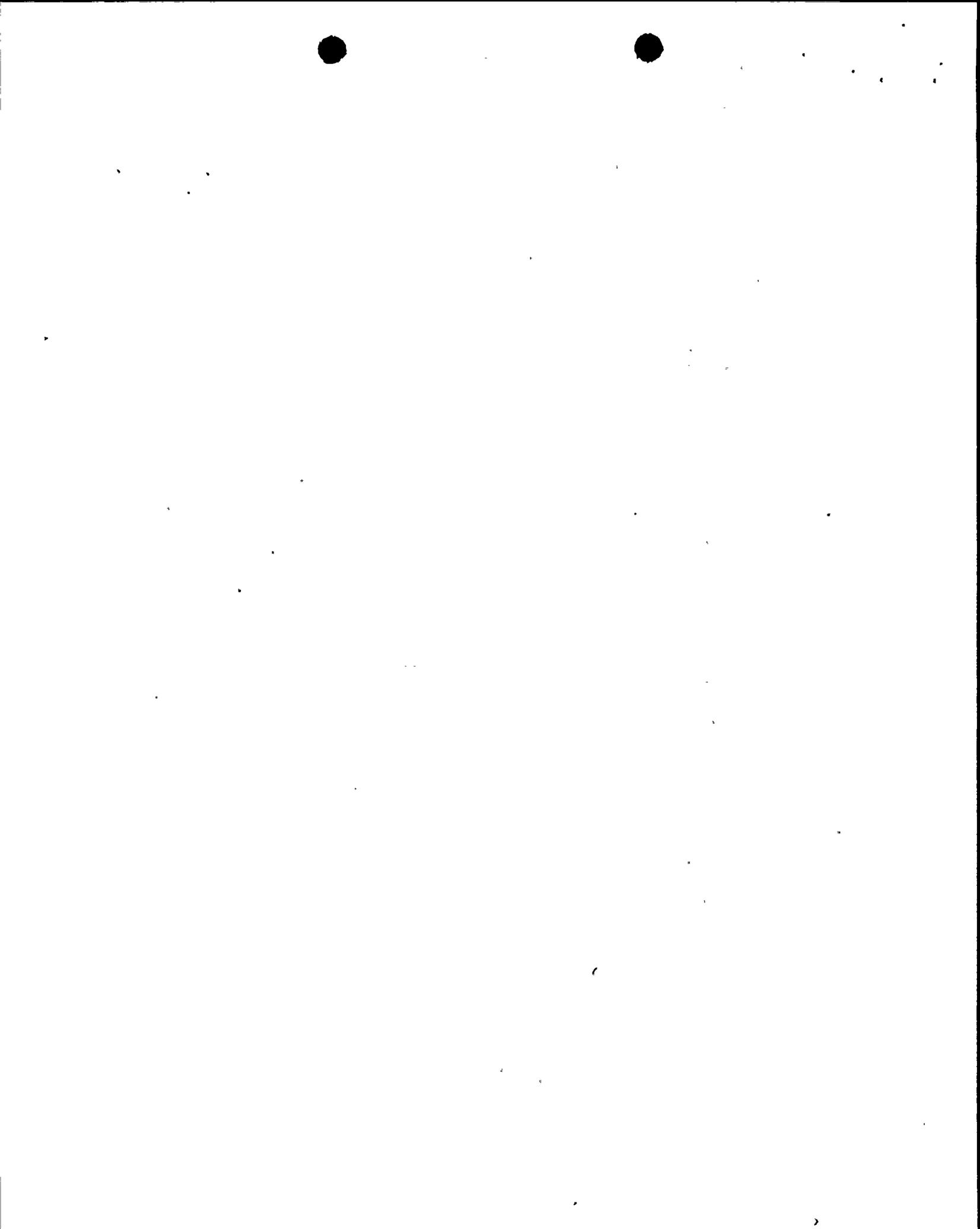
If the answer to Interrogatory 17 is yes, explain in detail the basis for, and identify each and every fact and document in support of, your answer.

Response.

The weakness of relying on pressurizer level as an indication of reactor vessel water level under transient or accident conditions has been discussed in the numerous reviews of the TMI-2 accident (e.g., the report of the Kemeny or President's Commission, the report of the Rogovin Special Inquiry Group, and NUREG-0578). The value and need for a more direct indication was identified in the NRC Action Plan (NUREG-0660, items I.D.5, II.F.2, and Table C.1). A direct, unambiguous, and easy to interpret indication of reactor vessel water level will help to avoid operator error resulting from interpretation of indirect indicators and thus will enhance safety of the reactor.

Interrogatory 19.

Is it your position that the instrumentation for detection of inadequate core cooling described in Applicant's response to Item II.F.2 of NUREG-0737 (submitted February 6, 1981) does not provide a direct measurement of the water level in the reactor vessel?



Response.

There are methods of measuring water level which are more direct than the computer-compensated differential pressure technique proposed by Westinghouse, but this is not the thrust of Subject 13. The main concern deals with the adequacy of the design, its ability to cover all accident conditions, and the timeliness of its implementation.

Interrogatory 20.

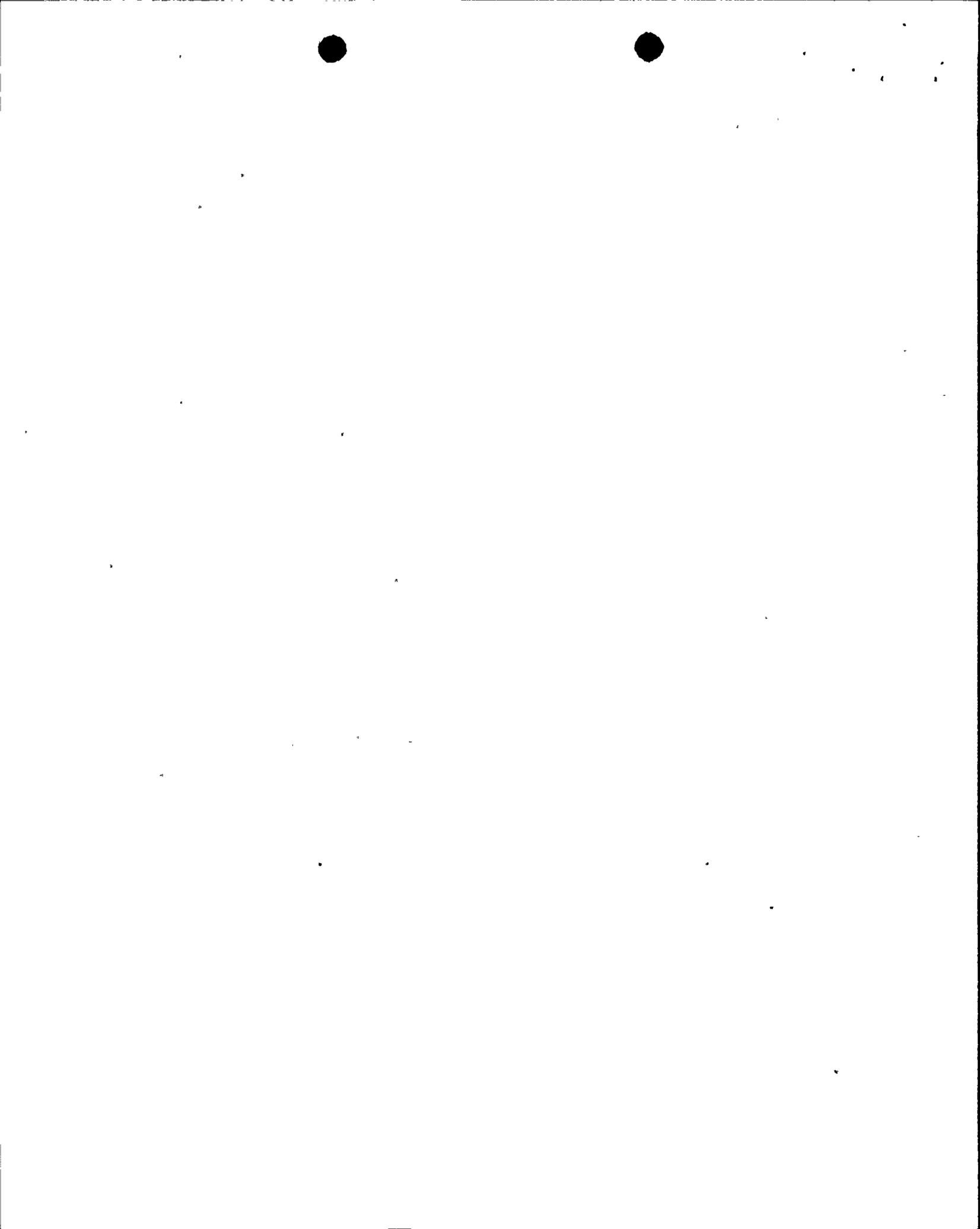
If the answer to Interrogatory 19 is yes, explain in detail the basis for, and identify each and every fact and document in support of, your answer.

Response.

The proposed reactor vessel water level measurement technique is "direct" to the extent that it utilizes measurements on the reactor vessel rather than using measurements of level in the appended pressurizer vessel to infer level in the reactor vessel. However, it is "indirect" because it uses a differential pressure to determine an equivalent height of water which must then be compensated for variables such as temperature, flow, and voids, to produce a reading of vessel water level.

Interrogatory 21.

Is it your position that the instrumentation for detection of inadequate core cooling described in Applicant's response to



Item II.F.2 of NUREG-0737 (submitted February 6, 1981) does not satisfy the requiremnt. for additional instrumentation referenced in Item II.F.2 of NUREG-0737?

Response.

Yes.

Interrogatory 22.

If the answer to Interrogatory 21 is yes, explain in detail the basis for, and identify each and every fact and document in support of, your answer.

Response.

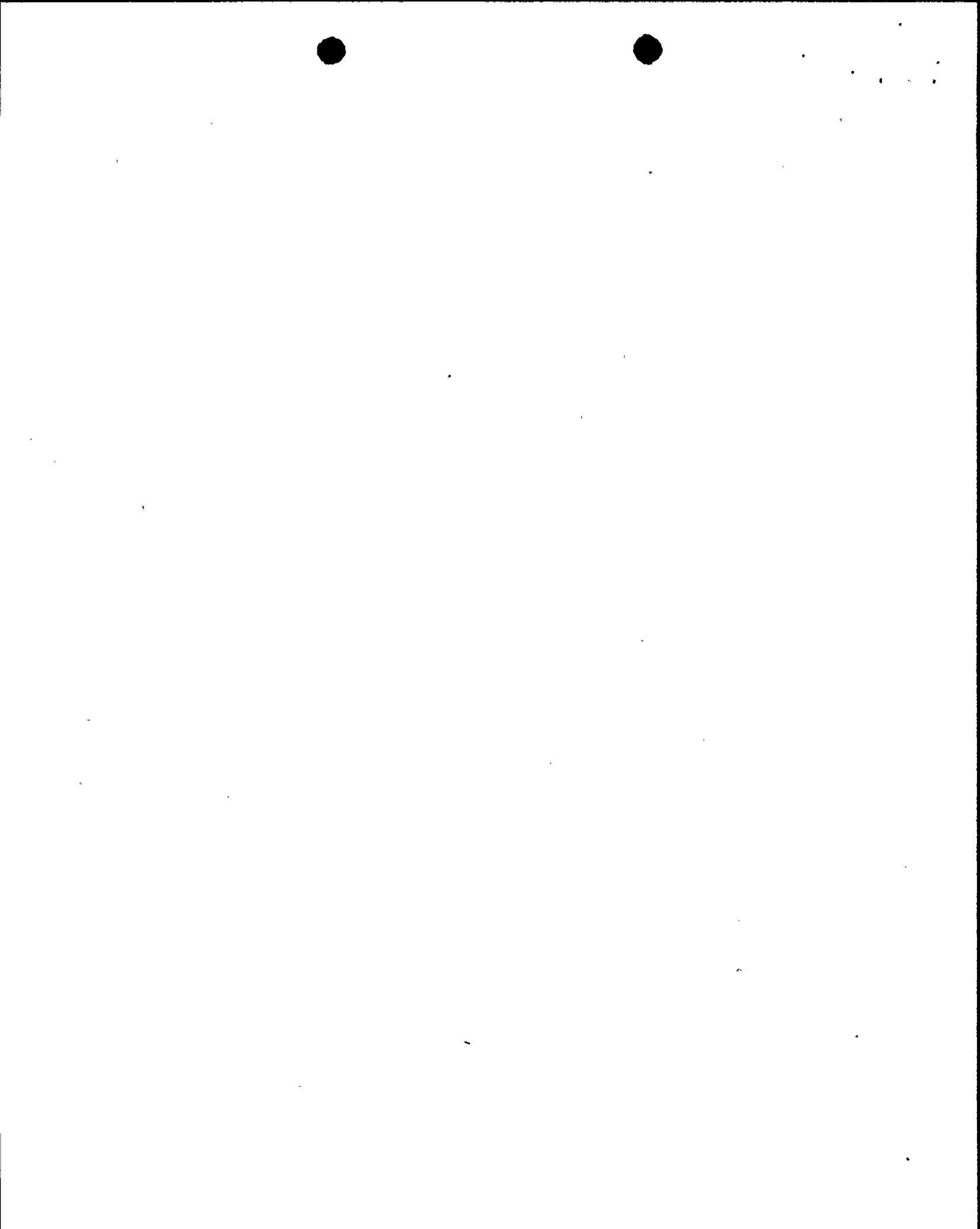
The reasons are described in response to Interrogatory 14.

Interrogatory 23.

If the answer to Interrogatory 21 is yes, specify in detail what additional instrumentation should be provided in order to meet the requirments of Item II.F.2 of NUREG-0737.

Response.

The thrust of Subject 13 is to request that adequate instrumentation be provided, consistent with the regulations and general design criteria, and that it be provided in a timely manner, consistent with the needs of public as well as worker health and safety. Subject 13 calls for level instruments to be



installed prior to fuel load. The concern of Subject 13 is the need for the instrument(s) to be effective and reliable in providing an unambiguous vessel water level indication over the range of off-normal and accident conditions which can be anticipated. The type and quantity of instrumentation to be provided is the responsibility of the Applicant.

Interrogatory 24.

Identify each and every requirement for fuel-loading set forth in Item II.D.1 of NUREG-0737 which you are contending is not met for Diablo Canyon. Explain the basis for, and identify each and every fact and document in support of, your answer.

Response.

The objective of II.D in NUREG-0660 is stated to be:

"Demonstrate by testing and analysis that the relief and safety valves, block valves and associated piping in the reactor coolant system are qualified for the full range of operating and accident conditions." NUREG-0660, pg. II.D-1.

NUREG-0660 required that these tests be completed by July 1, 1980. However, the Applicant's proposed plan to utilize a generic test approach (EPRI tests) for safety and relief valves has already been granted a year's delay in completion schedule. The submittals to the NRC have given no information as to the potential success of the effort; the submittals cover only that part of the tests



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that were done on the relief valves and none of the tests on the safety valves. Indeed, safety valves have not even been tested in the EPRI program, and such tests are clearly a fuel load requirement. NUREG-0737, Enclosure 2; PG&E Response to Governor Brown Interrogatories, pg. 4. The generic test plans do not even include block valve testing.

The concerns with this issue are also the thoroughness and timeliness of the tests. With regard to thoroughness, there is no clear, defined effort which will lead to block valve testing results other than reference to a past test of an undefined scope involving one block valve of the type used at Diablo Canyon. Also, the Applicant has withheld support for ATWS valve testing at this time. Because of the critical function of these valves as elements of the reactor coolant pressure boundary, and to be consistent with requirements of 10 C.F.R. 50, Appendix A, General Design Criteria 1, 14, 15 and 30, each of these valve types should be tested and qualified for correct and reliable operation over the range of accident conditions which the plant may experience. This should include the conditions which would exist as a result of an ATWS accident.

The generic valve testing is only part of the effort. There must also be plant-specific testing or analysis showing that the configuration of valves and piping at Diablo Canyon is adequate for the full range of accident conditions. These should be completed prior to operation to minimize public risk and to permit any necessary modifications with a minimum of worker exposure.



Interrogatory 25.

For each requirement identified in the answer to Interrogatory 24 specify in detail what should be done by Applicant in order to comply with such requirement.

Response.

The specific suggestions associated with deficiencies in the valve testing and qualifications program at Diablo Canyon are included in the response to Interrogatory 24. In particular, the tests referred to should be completed in a thorough and reliable manner before fuel loading.

Interrogatory 26.

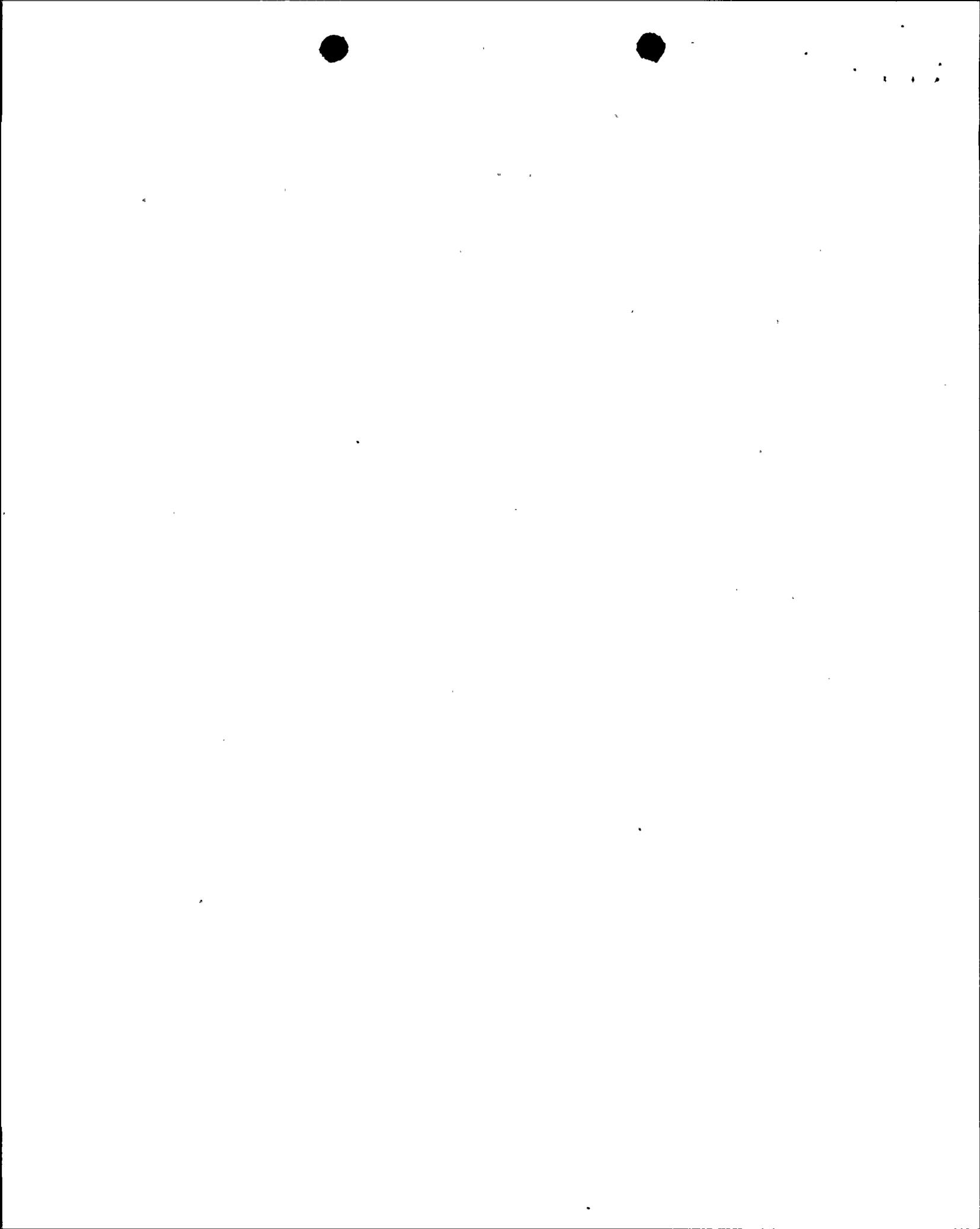
Is it your contention that the block valve tests referenced in Item II.D.1 of NUREG-0737 must be completed prior to fuel-loading?

Response.

Yes, in addition to contentions regarding completeness and thoroughness of the tests and in addition to contentions regarding S/R valves.

Interrogatory 27.

If the answer to Interrogatory 26 is yes, explain fully the basis for, and identify each and every fact and document in support of, your answer.



Response.

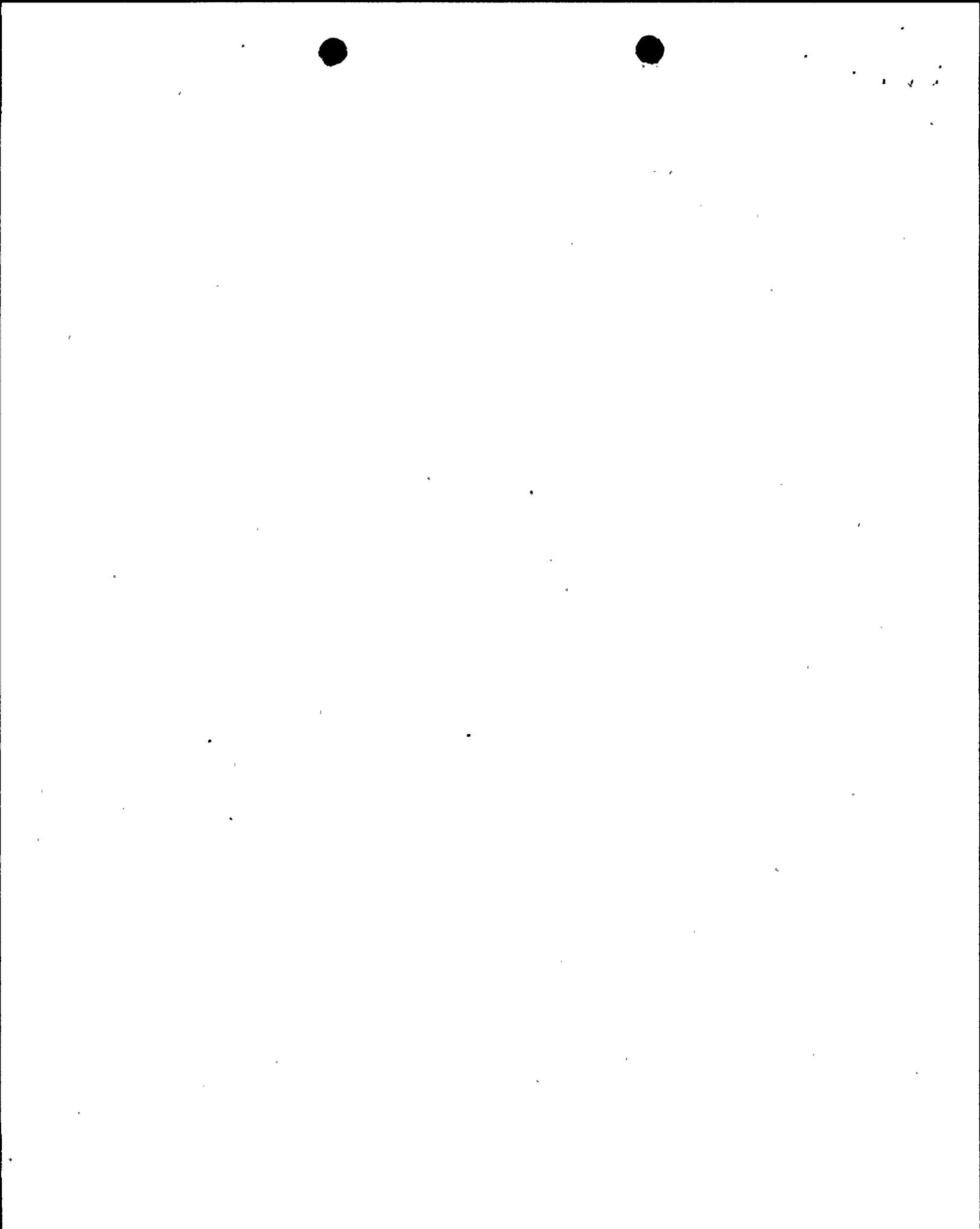
See response to Interrogatory 24. Further, NUREG-0737, in our view, would not be sufficient if PG&E were permitted a test schedule for these vital valves which was conducted after fuel load and low power testing. Thus, as expressed in response to Interrogatory 24, it is our view that all valve testing at Diablo Canyon should be completed before fuel loading.

Interrogatory 28.

Contention 24 states that appropriate qualification testing has not been done to verify the capabilities of the reactor coolant system relief and safety valves to function during normal, transient and accident conditions. Explain fully and in detail what qualification testing of the reactor coolant system relief and safety valves has not been done which you believe should be done for Diablo Canyon prior to fuel-loading. Identify each and every fact and document relied upon in responding to this Interrogatory.

Response.

First, contention 24 is a Joint Intervenor contention and thus we cannot respond as to their intentions in the phrasing of that issue. However, to the extent that this Interrogatory is also at issue in Subject 14, it will be answered here. The response to Interrogatory 24 provides the specifics, but in general there is a need to complete testing of all safety, relief, and block valve

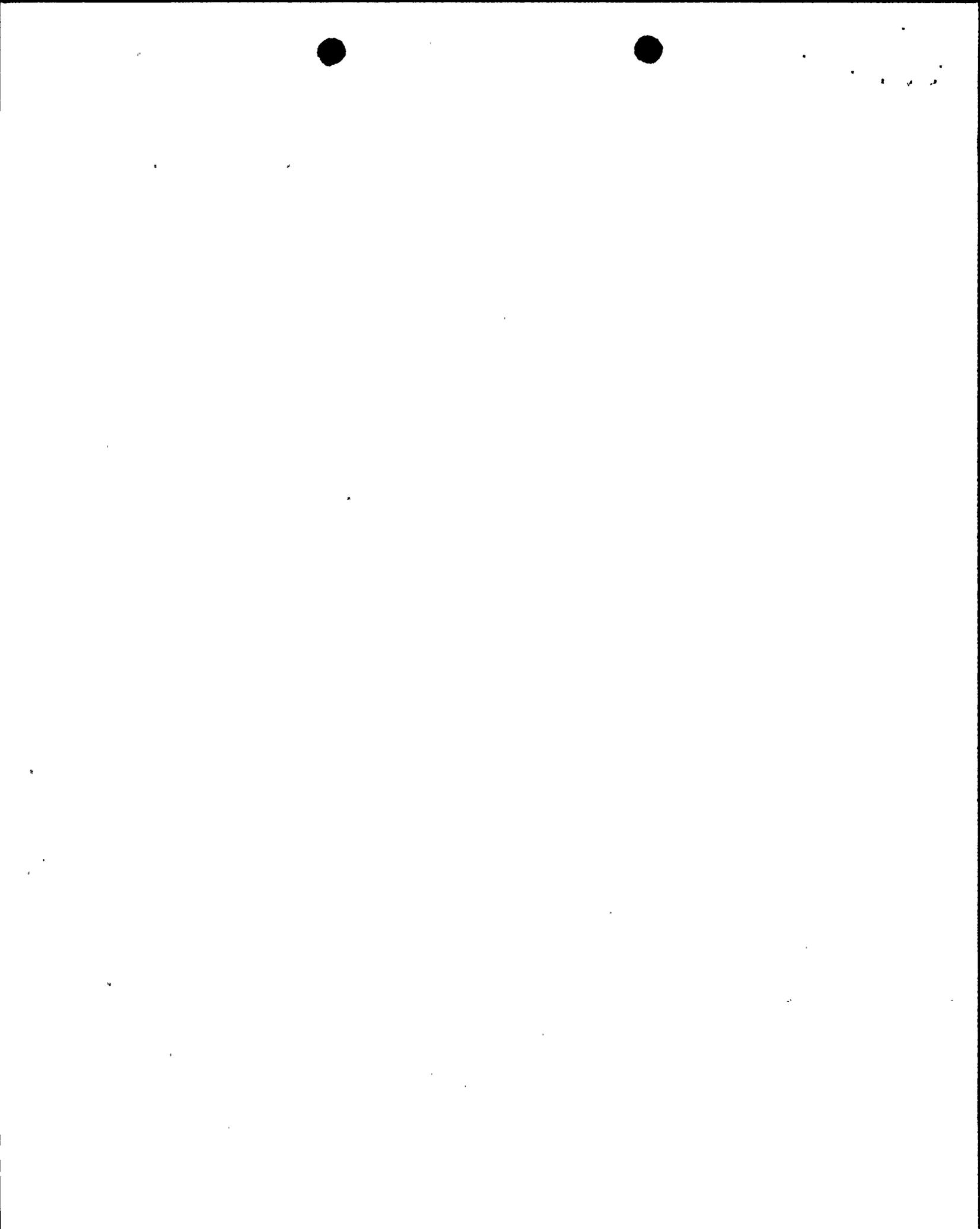


types utilized at Diablo Canyon prior to operation. Furthermore, these tests should be completed over the full range of accident conditions, including ATWS conditions. Finally, these should be plant-specific analyses done to ensure that the results of generic tests are applicable to Diablo Canyon in each case. These tests and plant-specific analyses are needed so that there will be confidence of safe operation and response at Diablo Canyon for the full range of potential operating and accident conditions.

Interrogatory 29.

As respects your answer to Interrogatories 1 through 28 please state:

- (a) The name, occupation, address, and telephone number of each person who will be called as a witness to testify as to the facts set forth in those answers, identifying which facts each person will be testifying to.
- (b) The field or science in which each such person is sufficiently schooled to enable them to express opinion evidence in this matter, if any.
- (c) Whether such witness will base his opinion:
 - (i) in whole or in part upon facts acquired personally by that person in the course of an investigation or examination as to the facts; or
 - (ii) solely upon information provided that person by others.



(d) The qualifications of each such person that would render that person, if possible, as an expert witness.

(e) If any such witness has made a personal investigation or examination relating to any of the facts or bases set forth in the answers to Interrogatories 1 through 37. [sic], state the date(s) and nature of each such investigation or examination.

(f) Each and every fact, and each and every document, photograph, report, item, or other tangible object supplied or made available to each such person.

(g) Whether each such person has rendered written reports, regarding facts, bases, or opinions as respects your contentions referred to in Interrogatories 1 through 37 [sic]. If so, state:

(i) the date(s) of each such report;

(ii) the name and address of the custodian of each such report.

Response. (a) - (g)

At this time, Governor Brown is undecided whether to present witnesses at the low power trial or whether to proceed by cross examination only. In the event witnesses are presented, we expect them to be Messrs. Greenberg, Minor and Hubbard, each of whose resumes has been submitted in connection with the Response to Staff. As we have not decided upon presentation of witnesses or the substance of the testimony if any is presented, we cannot respond further to this interrogatory.



Interrogatory 30.

List each expert witness you will call to testify in this matter.

(a) If not previously given in answers to these Interrogatories, give the occupation, address, telephone number, educational background and experience (as it may relate to each such person's field of expertise, if any) of each expert witness.

(b) State the subject matter on which each such expert is expected to testify.

(c) State the facts to which each such expert is expected to testify.

(d) State each opinion, if any, which each such expert is expected to express in testimony.

(e) Give a detailed summary of the grounds for each opinion expressed by each such expert.

Response.

Governor Brown has not decided to present any expert witnesses in this matter. See response to Interrogatory 29.

Interrogatory 31.

Identify, with specificity, each and every exhibit you intend to use in this matter. As to each such exhibit, state which facts, opinions or contentions the exhibit supports, if any.



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Interrogatory 32.

With reference to the exhibits listed in the preceding Interrogatory, state the source and nature of the exhibit, i.e., whether said exhibit is documentary, a picture, or whatever; who prepared each exhibit; its date of preparation; and, who has custody of each exhibit.

Response. (31 and 32).

We have identified no exhibits at this time which we intend to use in this matter. We may, however, use the following documents, each of which we believe is in PG&E's possession:

- (a) The PG&E, state and local emergency plans, and all drafts or earlier versions thereof.
- (b) NUREG's 0694, 0737, 0660, 0654, 0396, 0696, CR/1596, CR/1400, 0410, 75/111.
- (c) Any PG&E communications with the NRC Staff regarding compliance with regulatory requirements (e.g., Feb. 27, 1981 PG&E letter to Mr. Denton; Feb. 25 and 26, 1981 PG&E letters to Mr. Miraglia).
- (d) SER Supps. 10 and 12.
- (e) December, 1980, "Draft Plan Concept Outline," prepared for San Luis Obispo County by PRC Voorhees.
- (f) January, 1981. "Basic Plan Description," (Draft), prepared for San Luis Obispo County by PRC Voorhees.
- (g) WASH-1400.
- (h) GAO Report, "Areas Around Nuclear Facilities Should be Better Prepared for Radiological Emergencies," March 30, 1979.
- (i) Reg. Guide 1.101.
- (j) Calif. Senate Bill No. 1183.



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Respectfully submitted,

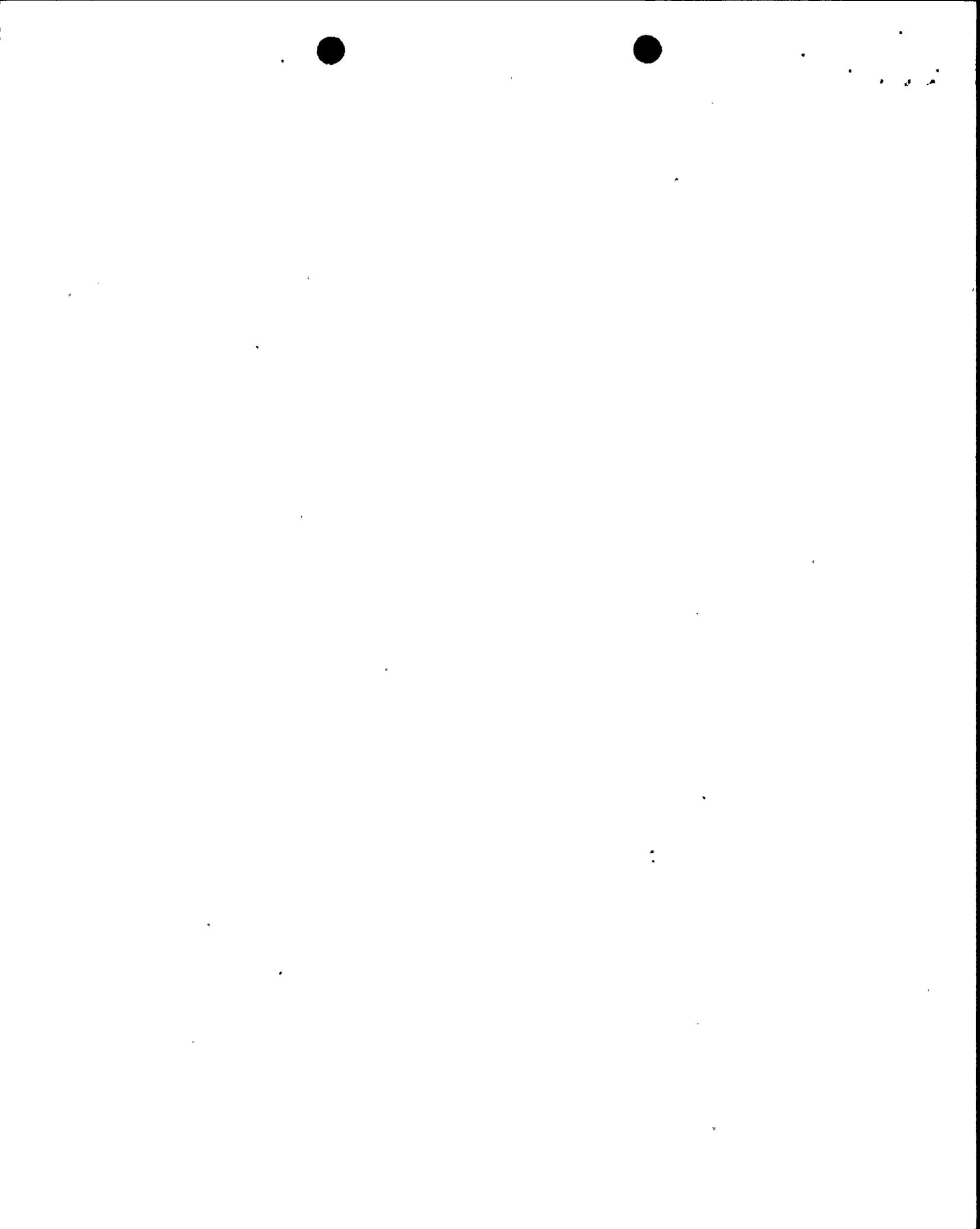
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March 19, 1981





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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 No. 50-275 O.L.
50-323 O.L.

AFFIDAVIT OF

GREGORY C. MINOR

STATE OF CALIFORNIA)
COUNTY OF SANTA CLARA)

ss.

GREGORY C. MINOR deposes and says under oath as follows:

I, the undersigned, have assisted in preparing and reviewing responses to the following PG&E Interrogatories:

INTERROGATORIES: 14-28

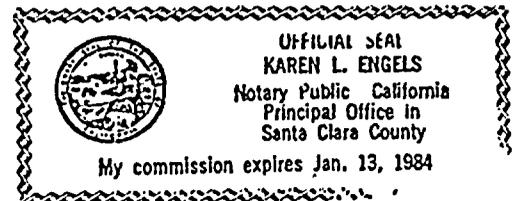
To the best of my knowledge, the responses are true and correct.

Gregory C. Minor
GREGORY C. MINOR

Subscribed and sworn to before
me this 16 day of March, 1981.

Karen L. Engels
NOTARY PUBLIC

My Commission Expires: 1-13-84





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 1 and 2))

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

(Low Power Proceeding)

CERTIFICATE OF SERVICE

I hereby certify that copies of the "RESPONSE OF GOVERNOR EDMUND G. BROWN, JR. TO FIRST SET OF INTERROGATORIES OF PACIFIC GAS AND ELECTRIC COMPANY" in the above-captioned proceeding have been served on the following by U.S. mail, first class, on March 19, 1981.

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

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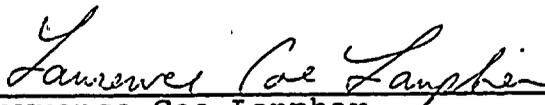
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March 19, 1981



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