

Docket Nos. 50-275
and 50-323

NOV 29 1971

ENVIRO - FILE (NEPA)

Pacific Gas and Electric Company
ATTN: Mr. Frederick T. Searls
Vice President and
General Counsel
77 Beale Street
San Francisco, California 94106

Gentlemen:

In accordance with section E.3 of the Commission's regulations implementing the National Environmental Policy Act of 1969 (NEPA), Appendix D of 10 CFR Part 50 (Appendix D), you furnished to the Commission a written statement of reasons, with supporting factual submission, why the Construction Permits Nos. CPPR-39 and CPPR-69 issued by the Atomic Energy Commission covering the Diablo Canyon Nuclear Power Plant, Units 1 and 2 should not be suspended, in whole or in part, pending completion of the NEPA environmental review.

The Director of Regulation has considered your submission in light of the criteria set out in section E.2 of Appendix D and has determined, after considering and balancing the criteria in section E.2 of Appendix D, that construction activities involving clearing the off-site right-of-way and constructing the second Diablo-Midway transmission line for the Diablo Canyon Nuclear Plant should be suspended pending completion of those portions of the NEPA environmental review. With respect to the construction of the Diablo-Gates transmission line and the first Diablo-Midway transmission line, and the onsite portions of the Diablo Canyon Plant, we have balanced the environmental factors and concluded that these activities need not be suspended.

By copy of the enclosed Order you are directed to show cause, in the manner therein provided, why the above mentioned construction activities at the Diablo Canyon Nuclear Power Plant, Units 1 and 2, should not be suspended until the environmental review of this issue is completed.

OFFICE ▶							LB
SURNAME ▶							
DATE ▶							

Her es von

Her es von

Pacific Gas and Electric
Company

- 2 -

NOV 29 1971

Further details of this determination are set forth in a document entitled, "Discussion and Findings by the Division of Reactor Licensing, U. S. Atomic Energy Commission, Relating to Consideration of Suspension Pending NEPA Environmental Review of the Construction Permits for the Diablo Canyon Nuclear Power Plant, Docket Nos. 50-275 and 50-323."

A copy of a related notice which has been forwarded to the Office of the Federal Register for publication is also enclosed.

Sincerely,

/s/ Peter A. Morris, Director
Division of Reactor Licensing

Enclosures:

1. Order to Show Cause
2. Discussion & Findings
3. Federal Register Notice

cc w/enclos:

Pacific Gas & Electric Company
ATTN: Mr. John F. Bonnar
Executive Vice President
77 Beale Street
San Francisco, California 94106

Mr. Philip A. Crano, Jr.
Pacific Gas and Electric Company
245 Market Street
San Francisco, California 94106

bcc:

JRBuchanan, ORNL
NGoodrich, ASLBP
JHarris, DPI
HJMcAlduff, ORO
TWLaughlin, DTIE

DISTRIBUTION:

Docket File (2)
AEC PDR (2)
Local PDR (2)
SAN PDR (2)
RCDeYoung
OGC
NBrown
RFerguson
PWR-1 R/F
DR R/F
DRL R/F

*Engelhardt
concerns see Bonnar
letter*

OFFICE >	AD:PWR <i>NB</i>	PWR-1	AD:PWR <i>RCDeYoung</i>	OGC	DRL <i>NB</i>	DRL
SURNAME >	NBrown:emp	Ferguson/ Miller	RCDeYoung	Engelhardt	TRWilson	PAMorris
DATE >	11/28/71	11/28/71	11/28/71	11/28/71	11/28/71	11/ /71

REF 88 17

UNITED STATES OF AMERICA
ATOMIC ENERGY COMMISSION

In the Matter of)

PACIFIC GAS & ELECTRIC COMPANY)

Diablo Canyon Nuclear Power Plant,)
Units 1 and 2)

Docket Nos. 50-275
and 50-323

DETERMINATION TO SUSPEND CERTAIN CONSTRUCTION ACTIVITIES
AT THE DIABLO CANYON PLANT
PENDING COMPLETION OF NEPA ENVIRONMENTAL REVIEW

The Pacific Gas and Electric Company (the licensee) is the holder of Construction Permits Nos. CPPR-39 and CPPR-69 (the construction permits), issued by the Atomic Energy Commission on April 23, 1968 and December 9, 1970, respectively. The construction permits authorize the licensee to construct two pressurized water nuclear reactors, designated as the Diablo Canyon Nuclear Power Plant, Units 1 and 2, at the licensee's site in San Luis Obispo County, California. Each reactor is designed for initial operation at approximately 3250 megawatts (thermal).

In accordance with section E.3 of the Commission's regulations implementing the National Environmental Policy Act of 1969 (NEPA), Appendix D of 10 CFR Part 50 (Appendix D); the licensee has furnished to the Commission a written statement of reasons, with supporting factual submission, why, the construction permits should not be suspended, in whole or in part, pending completion of the NEPA environmental review.

The Director of Regulation has considered the licensee's submission in light of the criteria set out in section E.2 of Appendix D and has determined, after considering and balancing the criteria in section E.2 of Appendix D, that construction activities involving the off-site right-of-way and constructing the second Diablo-Midway transmission line for the Diablo Canyon Nuclear Plant should be suspended pending completion of those portions of the NEPA environmental review. With respect to the construction of the Diablo-Gates transmission line and the first Diablo-Midway transmission line, and the onsite portions of the Diablo Canyon Plant, we have balanced the environmental factors and concluded that these activities need not be suspended.

Further details of this determination are set forth in a document entitled, "Discussion and Findings by the Division of Reactor Licensing, U. S. Atomic Energy Commission, Relating to Consideration of Suspension Pending NEPA Environmental Review of the Construction Permits for the Diablo Canyon Nuclear Power Plant, Units 1 and 2, Docket Nos. 50-275 and 50-323."

In accordance with section E.4(a) of Appendix D, the Director of Regulation has served upon the licensee an Order to Show Cause why the above-mentioned construction activities at the Diablo Canyon Plant should not be suspended pending completion of the NEPA environmental review that relate to these matters. Among other things, the Order to Show Cause

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

provides that the licensee may, within thirty (30) days of the date of the order, file a written answer to the order under oath or affirmation, and informs the licensee of his right, within the same period, to demand a hearing.

Any person whose interest may be affected by this proceeding, other than the licensee, may file a request for a hearing within thirty (30) days after publication of this determination in the FEDERAL REGISTER. Such request shall set forth the matters, with reference to the factors set out in section E.2 of Appendix D, alleged to warrant a suspension determination other than that made by the Director of Regulation and shall set forth the factual basis for the request. If the Commission determines that the matters stated in such request warrant a hearing, a notice of hearing will be published in the FEDERAL REGISTER.

The licensee's statement of reasons, furnished pursuant to section E.3 of Appendix D, as to why the construction permit should not be suspended pending completion of the NEPA environmental review, and the document entitled "Discussion and Findings by the Division of Reactor Licensing, U. S. Atomic Energy Commission, Relating to Consideration of Suspension Pending NEPA Environmental Review of the Construction Permits for the Diablo Canyon Nuclear Power Plant, Units 1 and 2, Docket Nos. 50-275 and 50-323" and the Order to Show Cause, are available for public inspection

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

2

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

1. 10. 11

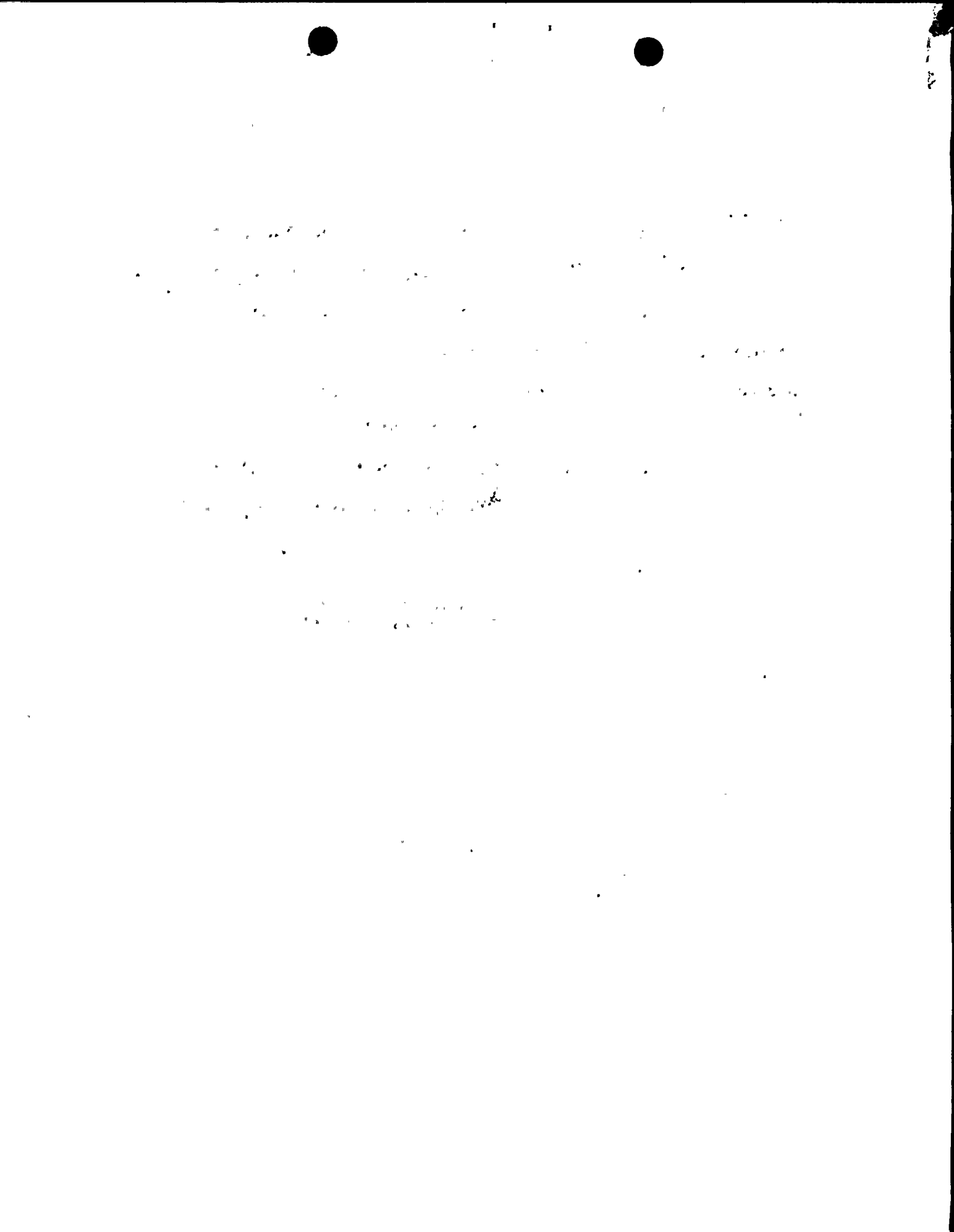
at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., and at the San Luis Obispo County Free Library, 1354 Bishop Street, San Luis Obispo, California 93401. Copies of the "Discussion and Findings" document and the Order to Show Cause may be obtained upon request addressed to the United States Atomic Energy Commission, Washington, D.C. 20545, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland this *29th* day of *November* 1971:

FOR THE ATOMIC ENERGY COMMISSION

(signed) L. Manning Muntzing

L. Manning Muntzing
Director of Regulation



UNITED STATES OF AMERICA
ATOMIC ENERGY COMMISSION

In the Matter of)

PACIFIC GAS & ELECTRIC COMPANY)

Diablo Canyon Nuclear Power Plant)
Units 1 and 2)

Docket Nos. 50-275
and 50-323

ORDER TO SHOW CAUSE

The Pacific Gas and Electric Company (the licensee) is the holder of Construction Permits Nos. CPPR-39 and CPPR-69 (the construction permits) issued by the Atomic Energy Commission (the Commission) on April 23, 1968 and December 9, 1970, respectively. The construction permits authorize the construction of two pressurized water nuclear reactors, designated as the Diablo Canyon Nuclear Power Plant, Units 1 and 2, located at the licensee's site in San Luis Obispo County, California. Each reactor is designed to operate initially at 3250 megawatts (thermal).

In accordance with section E of the Commission's regulations implementing the National Environmental Policy Act of 1969 (NEPA), Appendix D of 10 CFR Part 50 (Appendix D), the licensee has furnished to the Commission a written statement of reasons, with supporting factual submission, dated October 18, 1971, why the construction permits should not be suspended, in whole or in part, pending completion of the AEC regulatory staff's NEPA environmental review.

The Director of Regulation, upon consideration of the licensee's written statement of reasons and supporting factual submission and consideration and balancing of the criteria set out in section E.2 of Appendix D, has determined that construction activities involving clearing the off-site right-of-way and constructing the second Diablo-Midway transmission line for the Diablo Canyon Nuclear Plant should be suspended pending completion of those portions of the NEPA environmental review that relate to this matter for the reasons set out in the document entitled "Discussion and Findings by the Division of Reactor Licensing, U. S. Atomic Energy Commission, Relating to Consideration of Suspension Pending NEPA Environmental Review of the Construction Permits for the Diablo Canyon Nuclear Power Plant, Docket Nos. 50-275 and 50-323, Units 1 and 2," appended hereto and made a part hereof. The basis for this determination includes the following considerations:

1. Significant additional environmental impact will result from these construction activities;
2. The adoption of alternative routes and/or designs for these systems or facilities might be difficult and expensive if construction were not now suspended; and
3. The incremental cost of suspending these construction activities is not excessive when considering the environmental values that may be preserved.

In view of the foregoing and pursuant to section E of Appendix D and §2.202 of 10 CFR Part 2, IT IS HEREBY ORDERED that the licensee show cause, in the manner hereinafter provided, why the above mentioned construction activities at the Diablo Canyon Nuclear Power Plant, Units 1 and 2, should not be suspended pending completion of the NEPA review of the environmental impact of the continued construction of the transmission line.

The licensee may, within thirty (30) days of the date of this order, file a written answer to the order under oath or affirmation and demand a hearing as provided in 10 CFR § 2.202. Any answer filed shall specifically admit or deny each finding made in the "Discussion and Findings of the Division of Reactor Licensing, U. S. Atomic Energy Commission, Relating to Consideration of Suspension Pending NEPA Environmental Review of the Construction Permits for the Diablo Canyon Nuclear Power Plant, Units 1 and 2, Docket Nos. 50-275 and 50-323," and made a part hereof and may set forth the matters of fact and law upon which the licensee relies. If a hearing is demanded, the Commission will issue an order designating the time and place of hearing. Upon failure of the licensee to file an answer within 30 days of the date of this order, the Director of Regulation will, without further notice, issue an order suspending construction activities involving clearing the off-site right-of-way and constructing the second Diablo-Midway transmission line for the Diablo Canyon Nuclear Plant pending completion of those portions of the NEPA environmental review.

In the event the licensee demands a hearing as provided above, the issue to be considered at such hearing shall be whether, upon consideration and balancing of the criteria set out below, construction activities involving clearing the off-site right-of-way and constructing the second Diablo-Midway transmission line for the Diablo Canyon Nuclear Plant should be suspended pending completion of those portions of the NEPA environmental review.

Criteria

- (a) Whether it is likely that continued construction of this line during the review period will give rise to a significant adverse impact on the environment; the nature and extent of such impact, if any; and whether redress of any such adverse environmental impact can reasonably be effected should modification, suspension or termination of the permit result from the ongoing NEPA review.
- (b) Whether continued construction of this line during the prospective review period would foreclose subsequent adoption of alternatives in facility design or operation of the type that could result from the ongoing NEPA environmental review.
- (c) The effect of delay in facility construction or operation upon the public interest of primary importance under this criterion are the power needs to be served by the facility; the availability of alternative sources, if any, to meet those needs on a timely basis; and delay costs to the licensee and to consumers.

This order is effective upon service.

FOR THE ATOMIC ENERGY COMMISSION

(signed) L. Manning Muntzing

L. Manning Muntzing
Director of Regulation

Dated at Bethesda, Maryland
this *29th* day of *November* 1971

DISCUSSION AND FINDINGS BY THE
DIVISION OF REACTOR LICENSING
U. S. ATOMIC ENERGY COMMISSION
RELATING TO
CONSIDERATION OF SUSPENSION
PENDING NEPA ENVIRONMENTAL REVIEW
OF THE CONSTRUCTION PERMITS
FOR THE DIABLO CANYON NUCLEAR PLANT, UNITS 1 AND 2

AEC DOCKET NOS. 50-275/323

November 29, 1971

1.0 Introduction

On September 9, 1971 the Atomic Energy Commission (AEC) published in the Federal Register a revised Appendix D to 10 CFR Part 50 setting forth AEC's implementation of the National Environmental Policy Act of 1969 (NEPA). Paragraph E (3) of revised Appendix D generally requires a holder of a construction permit issued prior to September 9, 1971, but for which an operating license has not been issued to furnish to the AEC within 40 days of September 9, 1971 a written statement of any reasons, with supporting factual submission, why with reference to the criteria in paragraph E (2) of revised Appendix D the permit should not be suspended, in whole or in part, pending completion of the NEPA environmental review specified in Appendix D.

On April 23, 1968 and December 9, 1970 the AEC issued construction permits to the Pacific Gas and Electric Company (PGE) for the Diablo Canyon Nuclear Plant, Units 1 and 2. On October 18, 1971 PGE filed with the AEC the statement required by Paragraph E (3) of Appendix D.

1.1 Determination

In accordance with the requirements of Section E of Appendix D, we have determined that right-of-way clearing and construction of the second transmission line from the Diablo Canyon Nuclear Plant, Units 1 and 2, to the Midway Substation should be suspended pending completion of the NEPA environmental review specified in Appendix D. The time necessary to complete the NEPA review is estimated to be eight months. On-site construction and the work on the Diablo-Gates and first Diablo-Midway transmission lines is not suspended.

A formal "Determination" to this effect is being forwarded to the Federal Register for publication. In reaching this determination we have considered and balanced the criteria in Paragraph E (2) of Appendix D.

1.2' Background

On January 16, 1967 PGE filed an application for a construction permit for the Diablo Canyon Nuclear Plant Unit 1 with the AEC. An extensive review of the application was made by the AEC's regulatory staff and by the Advisory Committee on Reactor Safeguards. A public hearing was held before a three man Atomic Safety and Licensing Board at San Luis Obispo, California on February 20, 1968. On April 23, 1968 the Board issued its initial decision authorizing the Director of Regulation to issue a construction permit to the applicant. On April 23, 1968 Construction Permit No. CPPR-39 was issued. On November 7, 1967 the California Public Utilities Commission under Section 1001 of the Public Utilities Code issued a certificate of public convenience and necessity for the Unit and the associated transmission lines extending to the Gates and Midway Substations and the Morro Bay-Mesa Transmission Line. The certificate was issued after public hearings on-site matters were held at San Luis Obispo, California and San Francisco, California. This certificate was interim in form and may be made final by order of the California Public Utilities Commission on the establishment of evidence in the record that final authority has been obtained from the Atomic Energy Commission to construct and operate the nuclear energy plant.

On June 28, 1968 PGE filed an application for a construction permit for the Diablo Canyon Nuclear Plant Unit 2 with the AEC. An extensive review was made by the AEC's regulatory Staff and the Advisory Committee on Reactor Safeguards. A public hearing was held before a three man Atomic Safety and Licensing Board at San Luis Obispo, California on January 13, 1970 and on August 7, 1970. On December 8, 1970 the Board issued its initial decision authorizing the Director of Regulation to issue a construction permit to the applicant. On December 9, 1970 Construction Permit No. CPPR-69 was issued. On March 25, 1969 the California Public Utilities Commission under Section 1001 of the Public Utilities Code issued a certificate of public convenience and necessity for the Unit and an associated transmission line extending to the Midway Substation. The certificate was interim in form subject to the same conditions as the certificate for Unit 1 described above. The certificate was issued after public hearings on site matters were held at San Luis Obispo, California. On October 19, 1971 the State Water Resources Control Board of the State of California issued a Certificate of Conformance stating that the waste discharges from Diablo Canyon Units 1 and 2 proposed by PGE will not violate applicable water quality standards. This certificate was subject to conditions on the discharge of oil and sewage.

The licensee submitted an environmental report on August 9, 1971 and the AEC is preparing an environmental statement.

2.0 Completion of NEPA Review

The time necessary for the completion of the on-going NEPA review for the Diablo Canyon Nuclear Plant is estimated as eight months and the criteria set forth in Section E of Appendix D to 10 CFR Part 50 have been evaluated with this time period in mind. That is, the environmental impact of continuing construction at this site, the foreclosure of alternatives of the type that might be required as a result of the full NEPA review, and the effect of delay upon public interest all have been considered with respect to approximately eight months of continuing construction activity. Should the actual NEPA review for this case exceed eight months, construction during the longer time period would not significantly add to the environmental impact that construction activities have caused to date but the longer review period would substantially increase the cost of delay if the construction were now suspended. A longer review period would also increase the total actual plant expenditures at completion of the NEPA review if the construction permit were not now suspended. We have taken these considerations into account in balancing the factors specified in Paragraph E of Appendix D to 10 CFR Part 50 and have concluded that if a significantly longer time period were required to complete the NEPA review it would not affect our determination that the right-of-way clearing and construction of the second Diablo-Midway transmission line should be suspended pending completion of the NEPA review specified in Appendix D, but that on-site construction and the work on the Diablo-Gates and the first Diablo-Midway transmission lines should not be suspended.

3.0 Environmental Impact During The Prospective Review Period

The status of the construction activities and the potential environmental impact of continuing construction activities during the prospective NEPA review period are described below.

3.1 Status of Construction Activities

All principal site preparation and excavation work is complete.

Foundation work has been completed on the two reactor containments, the auxiliary building, and the turbine-generator building. One turbine-generator pedestal is in place, the breakwaters are nearly complete, the cofferdam for the discharge structure is complete, the cofferdam for the intake structure is nearly complete, the discharge structure is about half complete, and the intake structure is under construction. The major grading, excavation and fill operations are complete.

Construction of the Diablo-Gates transmission line is underway: approximately 83% of the right-of-way has been acquired; the excavations for 30 towers have been started; approximately 65% of the right-of-way has been cleared; and 76% of access roads have been completed.

Construction of the first Diablo-Midway transmission line is underway: approximately 93% of the right-of-way has been acquired; more than 80% of the tower foundations have been placed; more than 60% of the towers have been erected; over 20% of the conductors have been strung; approximately 79% of the right-of-way has been cleared; and approximately

91% of the access roads have been completed. Limited construction of the second Diablo-Midway transmission line, parallel and adjacent to the first, has been started with 3.5% of the tower foundations placed and eight towers to be erected by December 1971. The applicant has informed us that further construction on this line is not scheduled until July 1, 1972. The access roads for Midway line #1 are used for this line also.

Construction of the 230 kV transmission line to the Morro Bay-Mesa line is complete and the line has been energized.

The matter of alternate routes for short sections of the Midway transmission lines is pending before the California Public Utilities Commission. Figure 1 shows the approximate location of the sections under consideration. Location 1 involves the relocation of approximately one mile of line and location 2 involves the relocation of one tower. Figure 1 also shows the locations of the rights-of-way that have not yet been cleared.

3.2 Environmental Impact During the NEPA Review

Construction during the prospective review period falls basically into three categories: (1) structural work on containment and other buildings and installation of plant equipment, (2) structural work on the intake and discharge structures, (3) clearing of transmission line right-of-way and construction of transmission lines..

The completion of the foundation work; the continuation of structural work on the containment and other principal onsite buildings, and the installation of plant equipment will have a small, incremental adverse environmental impact when compared with the impact that already has resulted from the present state of construction. This incremental adverse impact will be largely temporary in nature, of the type which usually accompanies activities at large scale construction projects. Impact factors will include heavy truck traffic as construction materials are brought to and moved on the site; operation of a concrete batch plant at the site, and the noises associated with crane operation, steel erection work and miscellaneous mechanized tools and equipment. These construction noises are unlikely to disturb the surrounding population since this is a relatively remote site. Further, the effect of these noises on unique or otherwise important species of wildlife is not anticipated to be significant. Considerations of environmental impact similar to those for the containment and associated buildings apply to continuation of work on the intake structure.

Foundation work on the intake and discharge structures is underway. The cofferdam and access road for the discharge structure are complete, and the discharge structure is about half finished. The cofferdam for the intake structure is almost complete. When the construction of the intake and discharge structures has been completed, the road and cofferdams will be removed and the site restored where possible to its original condition. It is expected that the appearance of the site, as viewed from beyond the property boundary, will become aesthetically more pleasing as the principal structures proceed toward the final, planned outward shapes.

No additional adverse effects are anticipated in relation to ground-water, loss of soil by erosion, pollution of water or air, or disruption of recreation as a result of continuation of this type of construction. The incremental adverse impact shared by the surrounding communities as a result of the anticipated growth of the present construction force will be temporary in nature and should not be considered to be unduly disruptive considering the favorable impact that the added payroll can be expected to have on these communities..

The clearance of right-of-way for the 500 kV transmission lines and the construction of transmission facilities is presently underway. In evaluating the potential for an incremental environmental impact from this continuation of work we considered the displacement of additional residents on the right-of-way, the further disruption of area ecology, and the effects of clearing the remainder of the right-of-way and of constructing the transmission facilities themselves.

Additional displacement of persons will not result from continued activities on the owned, proposed right-of-way. The clearing of transmission line right-of-way is being carried out under U. S. Department of Interior guidelines. The clearing of the remaining portion of the right-of-way for the Gates and first Midway line is not likely to have significant additional impact on the overall ecology of the area since the majority of the work has already been completed, since movement of animal life will not be impeded,

and since flora and fauna in areas adjacent to the right-of-way should remain substantially unaffected by clearing and construction activities. Some trees and other vegetation on the right-of-way would of course be removed and animal life at least temporarily displaced. Damage to nesting sites on the right-of-way would be heavy but these are a very small fraction of the total forest population and there is no reason to believe that the existence of any species would be endangered by further right-of-way clearing.

The major impact on the environment associated with the construction of the Gates line and the first Midway line has already occurred. Only short sections remain to be cleared on the Midway line and the uncleared portion of the Gates line contains mostly brush and very few trees. The construction of a short portion of the Midway line between the site and the intersection of the line and the railroad just north of Pismo Beach has been suspended by PGE until the California Public Utility Commission's review of this area can be completed.

Redress of the impact of tower construction could be effected by removal of the towers. Redress of the right-of-way clearing could eventually be obtained by allowing regrowth or replanting; however, a mark on the terrain would remain for many years.

Eight towers of the second Midway line are scheduled to be placed on existing foundations in December 1971. These towers will be set by helicopter at the same time the towers of the first line are set; however, further construction and clearing of the right-of-way will not be started until July 1, 1972. Clearing of the entire right-of-way for this transmission line may have a significant environmental impact that will be considered during the NEPA review.

Since construction of the plant will not be completed during the forecast NEPA review period, there will not be an environmental impact from radioactive, thermal or chemical effluents which would be released as a result of operation of the plant.

4.0 Foreclosure of Alternatives During the Prospective Review Period

The alternatives in facility design or operation that may result from the NEPA review are:

- (1) Alternative effluent control measures or operating limits to reduce the environmental impact of thermal, chemical, or radioactive discharges from the plant, and
- (2) Alternative transmission line routes to reduce the environmental impact of the proposed transmission lines.

Alternatives that potentially could be affected by continued construction are those related to effluent control measures and transmission lines. These include the environmental impact of routine and accidental radiological releases, and the thermal and chemical effect of water releases. We have examined each of these areas to determine the alternatives that might be foreclosed as a result of construction during the NEPA review period.

Appendix D to 10 CFR Part 50 requires that a cost-benefit analysis of radiological, thermal and other environmental effects be performed by the AEC during the NEPA review and that a conclusion be reached on whether modification or termination of the license is warranted. The radiological effects involve both anticipated low-level releases associated with operation of the plant and with potential releases of radioactivity at somewhat higher levels that could result from an accident.

Routine gaseous and liquid effluent releases will be governed by the limits set forth in 10 CFR Part 20 and the technical specifications to be included in the operating license and PGE will be further required to keep radioactive effluents as far below these limits as practicable. This will include meeting numerical guidelines for routine releases comparable to those contained in Proposed Appendix I to 10 CFR Part 50.

The liquid radwaste treatment system for the plant is designed to be capable of recycling liquid radioactive wastes generated during operation. The stated design objectives of the system for liquid effluents are comparable to those of Proposed Appendix I. In addition, construction during the prospective NEPA review period would not preclude any necessary modifications to piping systems before or after their completion. Modifications requiring additional building space could involve substantial costs but would not be precluded.

The gaseous radwaste treatment system is presently designed to allow a 45 day holdup. The option of inclusion of additional holdup or treatment capability has been preserved by providing space and piping connections.

We conclude that modifications to the liquid and gaseous radwaste systems would not be precluded by continued construction. There is reasonable assurance that a plant under construction can be modified

to incorporate any radwaste treatment systems found necessary to restrict environmental release of radioactive waste to levels on the order of those specified in Proposed Appendix I, including the addition of building space if required.

The probability of occurrence of accidents and the spectrum of their consequences to be considered from an environmental effects standpoint will be analyzed using best estimates of probabilities and realistic fission product release and transport assumptions. For site evaluation in our safety review extremely conservative assumptions were used for the purpose of comparing calculated doses resulting from a hypothetical release of fission products from the fuel, against the 10 CFR Part 100 siting guidelines. The computed doses that would be received by the population and environment from actual accidents would be significantly less than those presented in our Diablo Canyon Safety Evaluation.^{1/} Although the environmental effects of radiological accidents are anticipated to be small, if further reduction in postulated accidental releases is required as a result of the full NEPA review, additional engineered safety systems could be added. For example, space is available for the inclusion of supplemental containment air cleanup systems.

In any event, operation of the plant will be required to be such that the environmental impact of postulated accidental releases will be

^{1/} Safety Evaluation by Division of Reactor Licensing, U. S. Atomic Energy Commission in the matter of Pacific Gas & Electric Company, Diablo Canyon Reactor Units 1 and 2, Docket Nos. 50-275 and 50-323, dated January 23, 1968 and November 18, 1969 respectively.

within Commission guidelines. We conclude that alternatives related to mitigation of accident consequences would not be precluded by the continuation of construction during the prospective review period.

The thermal and chemical releases will be subject to limits set forth in the State of California Water Quality Standards. These standards were approved by the State Water Resources Control Board on October 13, 1971 and are expected to be approved by the Environmental Protection Agency.

The testimony developed during the public hearing indicates that the thermal and chemical releases will have only a minor effect on marine ecology in a very limited area. Some cold water species of flora and fauna will be replaced by warm water species in Diablo Cove. Continued construction is not expected to preclude alternative chemical effluent control systems if they are found to be necessary by the NEPA review.

Clearing of the right-of-way and construction of the second Diablo-Midway transmission line would involve a significant investment and measurable environmental impact which could conceivably influence a later decision to recommend use of an alternative right-of-way. The construction of this line (except as discussed previously) is not scheduled to begin until July 1, 1972.

In summary, except for the second Diablo-Midway transmission line, no alternatives would be foreclosed by continued construction from the standpoint of technical feasibility.

5.0 Effect of Delay on Public Interest

We have examined the PGE estimate of costs that might be incurred through suspension of the construction permit in whole or in part. If the permit were to be suspended in its entirety pending completion of the NEPA review, PGE has stated under oath that an increase in costs as a result of a 6-month delay would be about \$16,000,000 to PGE alone. The AEC's Division of Construction has independently reviewed these delay costs and has concluded that the estimate by the applicant of the overall increase in costs associated with such a delay in the plant falls within the general range of what could be expected. These costs include suspension of physical site activities including the layoff and rehiring of the construction workers, field construction standby charges, engineering and home office work, contingencies and escalations on future work except hardware procurement. They also include taxes, insurance, owners staffing, administration, training and overhead, and interest. An increased incremental cost of power associated with replacement generation would also be incurred.

The reserve generation capacity during peak months of 1975 and 1976 in the PGE service area is estimated to be reduced from 20% to 5%, if construction of the Diablo Canyon Units is terminated. If construction of the units is suspended for 6 months the average monthly reserve generation capacity is estimated to be 16.7% in 1975 and 18% in 1976.

The duration of environmental impact of construction activities at this site, and the environmental impact of units at other sites, where the generation time could be reduced when the Diablo Canyon Units 1 and 2 enter commercial service, would be increased by a construction delay.

In their letter to the Director of Regulation dated November 10, 1971, the Public Utilities Commission, State of California, reaffirmed the need for power from the Diablo Canyon units and their concerns of the environmental impact of alternatives:

"A Commission staff report on the power supply situation in California indicates that planned resources must be placed in operation as nearly on schedule as possible if adequate reserves are to be maintained. The report shows that Diablo Canyon Units 1 and 2 scheduled for operation November 1, 1973 and November 1, 1974, respectively, have been rescheduled to June 1, 1974 and June 1, 1975, due to delays in construction. These delays compounded by shortages of natural gas and difficulties in procurement of low sulfur oil, may result in possible erosion of favorable margins in the latter half of the 1970's.

Alternative resources to overcome the deficiencies in reserve margins are unsatisfactory because of the attendant problem of acquisition of suitable fossile fuel supplies. Even assuming the availability of the expensive fossile fuel supplies, resulting additional emission of pollutants is a matter of serious environmental concern.

This Commission has concluded that the foreseeable disadvantages accruing from further delay in the commercial operating dates of the Diablo Units would be very serious from the point of the adequacy and reliability of electric service."

We also examined the costs of halting parts of the construction pending completion of the NEPA review. These costs, provided by PGE under oath and summarized below, do not include any of the above costs, but

are based on the assumption that the halted work would be reactivated in such a manner as to permit completion of these parts along with the remainder of the facility with no significant overall delay.

The cost to delay construction activities on the transmission lines has been estimated for several alternatives taking into account shifting from summer work to winter work and the cost of accelerating construction to make up for the delay:

1. To delay all 500KV lines would increase costs \$455,000.
2. To delay the Gates line only would increase costs \$70,000.
3. To delay the Midway line #1 would increase costs \$455,000.
4. To delay the Midway line #2 would increase costs \$82,000.
5. To delay both Midway lines would increase costs \$455,000.

The suspension of construction of all lines would result in the lay-off of 200 men; the suspension of construction of the Diablo-Gates or the first Diablo-Midway transmission line would result in the layoff of about 80 men. We conclude, therefore, that the incremental cost increases resulting from suspending the right-of-way clearing and construction of the second Diablo-Midway transmission line should not be large enough to compel reconsideration of our determination to suspend this work.

6.0 Determination and Balancing of Factors

We have considered and balanced the factors set forth in Section E, of Appendix D to 10 CFR Part 50; our findings and determination of whether to suspend the construction permit pending completion of the NEPA environmental review are as follows:

6.1 Environmental Impact of Continued Construction

The construction activities to be conducted at the plant site during the completion of the NEPA review will not give rise to an incremental impact on the environment that is substantial and unduly adverse. Redress of such environmental impact as might result from further construction is the same as for existing construction and could be achieved by reconstitution of the site if the construction permit is terminated following the NEPA review.

The construction activities to be conducted on the Gates or the first Midway transmission lines will not give rise to an environmental impact that is substantial and unduly adverse. The construction activities necessary for the widening of the right-of-way for the second Midway line are scheduled to begin on July 1, 1972 and will give rise to a significant environmental impact. In view of this potential, alternate routes will be considered during the NEPA review.

6.2 Foreclosure of Alternatives

Alternative effluent control measures or transmission line routes would not be foreclosed by continued construction at the site.

Modifications to provide alternative effluent control measures will require changes in piping systems and building space arrangements. This type of change will not be foreclosed by continued construction. Continued construction at the site has no effect on the transmission line routes.

As of October 31, 1971, PGE has paid out \$226,200,000 and has committed an additional \$165,000,000 for Units 1 and 2. During the review period an additional \$62,400,000 will be paid and an additional \$35,500,000 will be committed.

Parts of this expenditure conceivably could influence a later decision whether to require major modification to the plant. We conclude that the large certain cost of delay (at least \$16,000,000) outweighs the unlikely possibility that expenditures during the period of continued construction will affect substantially a subsequent decision regarding modification of the facility to reduce environmental impact.

As discussed in Section 5.0 above, stoppage of work on certain parts of transmission facility construction, would involve substantial delay costs. We conclude that the incremental adverse environmental impact as described in Section 3.0 above is sufficient to warrant suspension of work only on the second Diablo-Midway transmission line.

Continued construction during the prospective NEPA review period would not foreclose subsequent adoption of alternatives to currently proposed design features from the standpoint of technical feasibility, although substantial additional dollar costs might be incurred as a result of ongoing construction activities if major structural modifications were required at the end of the NEPA review. As discussed in Section 4.0 above, flexibility in system performance specifications has been preserved in the area of treatment of radioactive wastes and installation of additional accident mitigating features should improvements in these areas prove necessary as a result of the NEPA review. Additional reduction of chemical discharges would not be precluded; however, a change in the type of cooling facility would be more difficult, involving substantial costs.

6.3 Effect of Delay on Public Interest

The suspension of the construction permit would result in an increased cost to the consumer of greater than \$16,000,000. There would be other impacts that cannot be quantified. For instance, the environmental impact at the site would be increased in terms of the longer time period of construction activities and the reliability of service to the consumer would be decreased since the generating reserves in the PGE service areas would be reduced in 1974 and 1975.

Because continued construction at the plant site does not give rise to a significant adverse environmental impact and does not foreclose the adoption of alternatives in facility design or operation of the type that may result from the NEPA review and because the suspension of construction at the plant will result in a significant cost to the consumer, we conclude that the construction activities at the plant should not be suspended in their entirety pending completion of the ongoing NEPA review. However, a partial suspension of construction activities as discussed below is recommended.

Pending completion of the full NEPA review, the licensee proceeds with construction at its own risk. The discussion and findings herein do not preclude the AEC as a result of its ongoing NEPA environmental review from continuing, modifying, or terminating the construction permits or their appropriate conditioning to protect environmental values.



6.4 Suspension of Right-of-Way Clearing and Construction

The incremental impact on the environment of continuing work on clearing of the right-of-way for second Diablo-Midway transmission line is significant. Some environmental impact has already taken place as a result of the construction of this line, but a significant additional impact will take place from additional clearing of the right-of-way.

Continued clearing of the right-of-way would make the adoption of alternative routings significantly more difficult should this be the conclusion of the NEPA review.

The effect of suspending right-of-way clearance for this line for a period of eight months is not expected to delay plant startup to any significant extent if at all. We believe the licensee can accommodate the suspension of work on this line by suitable reprogramming of its construction efforts, though admittedly at some additional cost. We plan to review the environmental impact of the transmission line on an expedited schedule compared to the complete NEPA review schedule.

After balancing the factors described above as to environmental impact of continued right-of-way clearing for the second Diablo-Midway transmission line, and the potential for foreclosure of alternatives as a result of further work, against the effect of delay costs, we conclude that the right-of-way clearing and construction of this line should be suspended pending completion of the ongoing NEPA review.

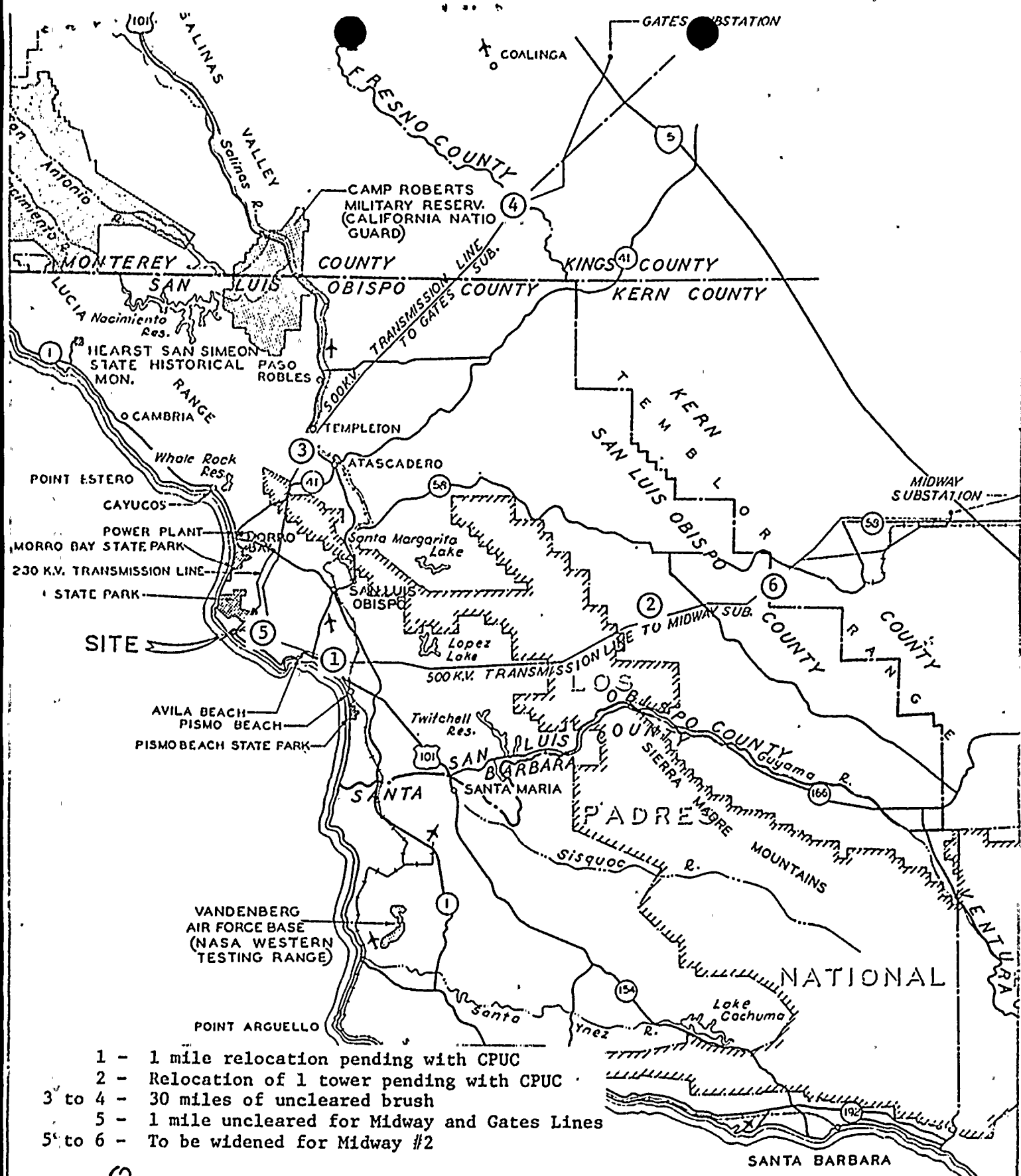


Figure 1

