February 3, 1993

Docket Nos. 50-275
and 50-323

Mr. Gregory M. Rueger
Senior Vice President and General Manager
Nuclear Power Generation, B14A
Pacific Gas and Electric Company
77 Beale Street, Room 1451
P.O. Box 770000
San Francisco, California 94177

Dear Mr. Rueger:

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT DIABLO CANYON UNITS 1 AND 2 (TAC NOS. M84006 AND M84007)

Enclosed for your information is a copy of an "Environmental Assessment and Finding of No Significant Impact." The Environmental Assessment relates to your request dated July 9, 1992, to change the expiration dates of the Diablo Canyon Units 1 and 2 licenses to allow for forty years of operation.

The Environmental Assessment has been sent to the Office of the Federal Register for publication.

Sincerely,

Original signed by

Sheri R. Peterson, Project Manager
Project Directorate V
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

February 3, 1993

Docket Nos. 50-275
and 50-323

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Nuclear Power Generation, B14A
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As stated

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Mr. Gregory M. Rueger
Pacific Gas and Electric Company

Diablo Canyon

cc:
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UNITED STATES NUCLEAR REGULATORY COMMISSION

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NOS. 50-275 AND 50-323

DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2

NOTICE OF ISSUANCE OF ENVIRONMENTAL ASSESSMENT

AND FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission or the NRC) is considering issuance of an amendment to Facility Operating License Nos. DPR-80 and DPR-82, issued to Pacific Gas and Electric Company (PG&E, the licensee), for operation of the Diablo Canyon Power Plant (DCPP), Units 1 and 2, located in San Luis Obispo County, California.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action

Diablo Canyon Power Plant, Units 1 and 2 are currently licensed for operation for 40 years commencing with the issuance of the construction permits. The operating licenses expire on April 23, 2008, for Unit 1 and on December 9, 2010, for Unit 2. By letter dated July 9, 1992, the licensee requested that the DCPP operating license expiration dates be extended to September 22, 2021, for Unit 1, and to April 26, 2025, for Unit 2 or 40 years after the date of the issuance of the "low-power" operating licenses.

The Need for the Proposed Action

The proposed change to the license would allow the licensee to operate DCPP, Units 1 and 2, for 40 years from the date of the issuance of the operating licenses, thus recapturing the construction period. This

extension would also permit the plant to operate for the full 40-year design basis lifetime, consistent with previously stated Commission policy (Memorandum dated August 16, 1982, from William J. Dircks, Executive Director for Operations, to the Commissioners) and as evidenced by the issuance for over 50 similar extensions to other licensees.

Environmental Impacts of the Proposed Action

The Commission has completed its evaluation of the proposed revision and concludes that the extension of Diablo Canyon's Operating License Nos. DPR-80 and DPR-82 will not create any new or unreviewed environmental impacts. This change does not involve any physical modifications, and there are no new or unreviewed environmental impacts that were not considered as part of the Final Environmental Statement (FES) dated May 1973, relating to operation of the DCPP, Units 1 and 2. Evaluations for the FES considered a 40-year operating life.

The considerations involved in completing the Commission's evaluation for the proposed amendment are discussed below.

1. Radiological Impacts of the Hypothetical Design Basis Accident

The offsite exposure from releases during postulated accidents has been previously evaluated in the DCPP Final Safety Analysis Report (FSAR) Update. The results are acceptable when compared with the criteria defined in 10 CFR 100. This type of evaluation is a function of four parameters: (1) the types of accidents postulated, (2) the radioactivity release calculated for each accident, (3) the assumed meteorological conditions, and (4) the population distribution versus distance from the plant. The staff has concluded that neither the types of accidents nor the calculated radioactivity releases will change through the proposed 40-year operating

license terms. Furthermore, the site meteorology as defined in the FSAR Update is essentially constant and consideration herein is therefore unwarranted. Thus, population size and distribution is the only time-dependent parameter. The population size and distribution in the vicinity of the plant have been reviewed several times since the construction permit was issued. The California Department of Finance projections indicated that a compound average growth rate of 2.15 percent is expected for the 50-mile radius around Diablo Canyon through the year 2025. There is no expected change in land usage during the license terms that would affect offsite dose calculations. The population projections are presented in Figure 1, "Summary of Population Projections for the Diablo Canyon Vicinity," taken from the licensee's July 9, 1992 letter.

The changes projected for the population distribution through 2025 will not significantly impact any accident analysis previously calculated. Furthermore, the current exclusion area boundary, Low Population Zone (LPZ), and nearest population center distance will continue to meet the requirements of 10 CFR 100.11(a) for the proposed 40-year license terms. Accordingly, we conclude that the proposed license amendment will not significantly change previous conclusions on the potential environmental effects of offsite releases from postulated accidents.

The Commission stated in its proposed no significant hazards consideration (57 FR 32575) dated July 22, 1992, that the requested change in expiration dates is consistent with current NRC policy and the originally engineered design life of the plant, i.e., 40 years of operation. Due to design conservatism, maintenance and surveillance programs, inspection programs and the Plant Technical Specifications, the

proposed additional thirteen and fifteen years of operation for DCPP Units 1 and 2 will have no significant impact on safety. That is, regardless of the age of the facility, the above mentioned programs and Technical Specifications ensure that components, systems and structures will be refurbished or replaced to maintain their requisite safety function over 40 years of operation.

2. Radiological Impacts of Annual Releases

a. Onsite Doses

The DCPP occupational (onsite) exposure trend and magnitude as compared with the industry's average pressurized water reactor (PWR) site, based on 3-year average annual exposures in terms of person-rem per reactor unit, is shown in Figure 2, "Diablo Canyon vs. INPO Industry Goal Average Annual Occupational Exposure," taken from the licensee's July 9, 1992 letter. The data in Figure 2 indicate that the licensee has implemented a successful program under 10 CFR 50, Appendix I "As Low as Reasonably Achievable" (ALARA) guidelines. Figure 2 also shows the projected occupational exposure averages per unit through the year 2000. Given the licensee's continued implementation of its ALARA program and DCPP's historical occupational exposure, we conclude that the occupational exposures used in Figure 2 serve as a realistic estimate through the proposed 40-year period of operation. These projected exposures are significantly less than the 450 person-rem per year per unit values estimated in the FES Addendum for Diablo Canyon. Occupational exposures resulting from the proposed 40-year operating license terms will remain well within the limits of 10 CFR 20.

b. Offsite Doses

Appendix I guidelines on ALARA were briefly discussed above in regard to onsite doses; these guidelines also apply to releases that could cause offsite doses. In addition, routine releases to the environment are governed by 10 CFR 20.1(c), which states that such releases should be as low as reasonably achievable. Appendix I is more explicit in that it establishes radioactive design/dose objectives for liquid and gaseous offsite releases including iodine/particulate radionuclides. Figure 3, "Comparison of Offsite Appendix I Radiation Exposure Limits and Actual Data," provides a comparison of Appendix I limits with consolidated plant operating data. This figure is derived from the licensee's letter of July 9, 1992. A review of the values in Figure 3 indicates that the actual performance of the plant to control and limit liquid and gaseous radioactive releases has been well within the Appendix I limits.

Based on the continued operation of the plant's existing Waste Processing System, we conclude that the anticipated offsite doses during the period covered by the proposed license amendment would remain a fraction of 10 CFR 50, Appendix I limits. The projected exposures are also well within the offsite exposures estimated by the NRC in the Diablo Canyon's FES. Furthermore, the plant's contribution to the local population dose within a 50-mile radius is expected to remain insignificant in comparison to that from background radiation.

The DCPP Radiological Environmental Monitoring Program was established prior to the start of plant operation to determine preoperational background levels. The Radiological Environmental Monitoring Program is designed to validate the adequacy of safeguards

inherent in plant design and the effectiveness of dose calculations, based on plant emission data and appropriate meteorological and aquatic dispersion models. Emphasis is placed on control at the source, with follow-up and confirmation by environmental surveillance. This is accomplished by continuously measuring radiation levels and airborne radioactivity levels and periodically measuring amounts of radioactivity in samples at various locations surrounding the plant. To ensure that the program continues to include environmental sample locations most likely to detect plant-related radioactivity, a land-use census is conducted annually. Changes in milk sampling locations may be required following the census based on relative potential doses or dose commitments and the availability of samples. Continued environmental monitoring and surveillance under this program ensures early detection of any increase in exposures over the proposed 40-year operating license terms.

The volume of solid low level radioactive waste generated at DCPP has historically been among the lowest in the nuclear power industry. In addition, the licensee has committed to further reduce the amount generated in future years.

We conclude that the releases from DCPP, both onsite and offsite, have remained within the bounds of the FES and have complied with the applicable portions of 10 CFR Parts 20 and 50, as discussed above. As a consequence, we would expect releases during the proposed license extension period to remain within these bounds.

3. Environmental Impact of the Uranium Fuel Cycle

Each Diablo Canyon reactor contains 193 fuel assemblies. The assemblies consist of fuel rods in a 17 x 17 array. About 39 to 46 percent

of the fuel assemblies are replaced every refueling. Since issuance of the operating licenses, PG&E has adopted several fuel design changes and improved fuel management schemes. These changes have significantly improved uranium utilization.

The fuel parameters meet 10 CFR 51.52(a)(2), except for fuel enrichment, which may be as much as 0.5 weight percent higher in the DCPP fuel rods. The environmental effects of extended fuel burnup and higher initial enrichment are addressed by the NRC in a "Notice of Environmental Assessment and Finding of No Significant Impact" published in the Federal Register on February 29, 1988 (53 FR 6040). This notice stated that the NRC's environmental assessment of extended fuel burnup and higher enrichment fuel is complete, and that the environmental impacts summarized in Tables S-3 of 10 CFR 51.51 and S-4 of 10 CFR 51.52 bound the corresponding impacts for burnup levels up to 60 gigawatt-days/metric ton uranium and enrichments up to 5 weight percent U-235.

In the Diablo Canyon FES, it was assumed for purposes of estimating the amount of uranium required that the plant would operate for 40 years with an 80 percent capacity factor. It was further assumed that the units would be refueled on approximately an annual basis. Since the Diablo Canyon units are refueled approximately every 18 months and improvements in uranium utilization have been made, the total amount of uranium required for the proposed 40-year operating license terms is expected to be less than the amount projected in the FES.

The environmental impacts, both radiological and nonradiological, attributable to the transportation of fuel and waste to and from plant sites, with respect to normal conditions of transport and possible

accidents in transport, have been assessed in several generic environmental impact statements. The assessments represent the contribution of such transportation to annual environmental costs including dose per reactor year to exposed transportation workers and to the general public. These annual environmental costs, which are displayed in Table S-4 of 10 CFR 51.52, would not be changed by the extended period of operation.

Based on the above, we conclude that there are no significant changes in the environmental impact related to the uranium fuel cycle due to the proposed extended operation of DCPP.

4. Nonradiological Impacts

The major nonradiological impact of the plant on the environment is the operation of the plant's cooling water system. The DCPP cooling water system is a once-through system discharging directly into Diablo Cove of the Pacific Ocean. The potential ecological effects of the cooling water system are: (1) those resulting from elevated water temperatures in portions of Diablo Cove, (2) entrainment of organisms in the cooling water system, (3) impingement of organisms on the intake traveling screens, and (4) scouring effects of the discharge in the intertidal zone at the point of discharge.

These effects have been extensively studied and the study results were considered in issuance of the National Pollution Discharge Elimination System (NPDES) Permit and renewals. The NPDES Permit is conditional upon the discharge complying with provisions of Division 7 of the California Water Code and of the Clean Water Act (as amended or as supplemented by implementing guidelines and regulations) and with any more stringent

effluent limitations necessary to implement water quality control plans, to protect beneficial uses, and to prevent nuisance.

An April 28, 1988 study of the cooling water intake structure was submitted to the California Regional Water Quality Control Board, which concluded the facilities at DCPP reflect the best technology available (BTA). Further, the Monitoring and Reporting Program requires PG&E to continue ecological studies as approved by the Executive Officer to evaluate changes in distribution and abundance of marine plants and animals within the vicinity of the discharge. These operational studies have indicated that the effects of the discharge are consistent with the preoperational studies and modelling predictions; i.e., that the discharge would not significantly affect the marine ecology in the vicinity of DCPP. The Board and Department of Fish and Game have found the observed changes (mainly in relative abundance of species) to be acceptable.

Additional discharge and thermal effects are not anticipated based on operational data collected since 1984. Accordingly, the basis for the Board's order is expected to remain valid when the NPDES Permit is renewed in 1995 and thereafter.

Other nonradiological impacts of the proposed license extension involve the following factors:

a. Short-Term Use Versus Long-Term Productivity

The lifetime capacity factor for DCPP through its first 7 years of commercial operation is about 77 percent. The plant has maintained an excellent safety record during this period and recent NRC Systematic Assessment of Licensee Performance (SALP) reports have found the performance of licensed activities to be very good and in some cases to be

superior. The licensee has achieved a high level of safety performance and recently met NRC criteria for recognition of its good performance. The staff expects that a good level of performance will continue during the remaining license period and during the requested extension period.

b. Irreversible and Irretrievable Commitment of Resources

The FES stated in its discussion of this factor, in regard to the initial plant construction as well as 40 years of projected operation, that the resource consumption is justified in view of the electrical energy to be produced by the plant. The NRC has not determined the need for any significant resource commitments necessary as a result of the proposed license extension.

c. Historic Preservation

PG&E continues to manage and protect the historic properties at DCPP in consultation with the California State Historic Preservation Office and the local Native American communities. As a result of this aggressive management, the Commission concludes, as it did in a letter to PG&E dated June 25, 1984, that operation of DCPP throughout the 40-year operating license terms will not adversely affect any known historic sites.

5. Plant Modifications

Several environmental-related plant modifications have been made since issuance of the FES and Addendum. Those that involve an unreviewed safety question or require a change to the Technical Specifications are submitted to the NRC for prior review and approval. This review includes a determination of the environmental effects of the proposed change. As provided by our regulations, other changes may be implemented without prior NRC approval. The licensee must first perform a safety evaluation for any

such change, subject to NRC inspection and audit. The licensee also submits on a refueling outage basis, a summary of such changes to the NRC for its review. The update of the FSAR also includes a description of such changes and a summary of the safety evaluation. The staff reviews the FSAR updates to verify that the changes did not require prior NRC review and approval. In general, these changes further reduce the environmental impacts associated with DCPP operation. Some of the modifications include: wastewater holding and treatment system, hazardous waste storage, oil spill prevention, expanded sewage treatment, chlorination system modifications and makeup water treatment. Most of these plant design modifications and changes have had a direct positive impact on the environment; for example, chemical discharges have decreased and spill prevention has improved. Additional plant modifications and changes may be implemented during the proposed 40-year operating license terms. Based on past experience, future changes are not expected to have any adverse impact on the environment.

6. Conclusion on Environmental Impacts

In summary, the effects of changing the expiration date for the Unit 1 Operating License from April 23, 2008, to September 22, 2021, and the expiration date for the Unit 2 Operating License from December 9, 2010, to April 26, 2025, are bounded by the assessment in the original FES. In addition, based on the above, the Commission concludes that there are no significant environmental impacts associated with the proposed amendment.

Alternative to the Proposed Action

Since the Commission concluded that there are no significant environmental effects that would result from the proposed action, any

alternatives with equal or greater environmental impacts need not be evaluated. However, the principal alternative would be to deny the requested amendment. If the plant is not operated beyond 2008, it is likely that it would be necessary to construct new baseload capacity. Even considering significant changes in the economics of the alternatives for producing an equivalent electrical power capacity, operation of DCPP during the requested extension period would only require incremental yearly costs. These costs would be substantially less than the installation of new electrical generating capacity. Moreover, the overall cost per year of the facility would decrease since the large initial capital outlay would be averaged over a greater number of years. In summary, the cost-benefit advantage of DCPP compared to alternative electrical power generating capacity improves with the extended plant lifetime.

Alternative Use of Resources

This action does not involve the use of resources not previously considered in the Final Environmental Statement related to operation of Diablo Canyon, dated May 1973.

Agencies and Persons Consulted

The Notice of Consideration of Issuance of Amendment and Opportunity for Hearing in connection with this action was published in the Federal Register on July 22, 1992 (57 FR 32575). In accordance with 10 CFR 2.714 (b), the San Luis Obispo Mothers for Peace, on August 21, 1992, filed a petition for leave to intervene and requested a hearing; the action has resulted in contacts between the staff and the Mothers for Peace.

FINDING OF NO SIGNIFICANT IMPACT

The conclusions of the May 1973 Final Environmental Statement (FES) remain valid and operation of the plant has demonstrated that its impact on the environment has been within the bounds predicted by the FES for 40 years of operation. Based on its review of the proposed license amendment relative to the requirements set forth in 10 CFR 51, the Commission concludes that there are no significant radiological or nonradiological impacts associated with the proposed action and that the issuance of the proposed license amendment will not have a significant effect on the quality of the human environment. Therefore, pursuant to 10 CFR 51.31, an environmental impact statement need not be prepared for the proposed license amendment.

For further details with respect to this action, see the licensee's application for amendment dated July 9, 1992, which is available for public inspection at the Commission's Public Document Room, Gelman Building, 2120 L Street, NW., Washington, D.C. 20555 and at the local public document room at California Polytechnic State University, Robert E. Kennedy Library, Government Documents and Maps Department, San Luis Obispo, California 93407.

Dated at Rockville, Maryland this 3rd day of February 1993.

FOR THE NUCLEAR REGULATORY COMMISSION

Theodore R. Quay

Theodore R. Quay, Director
Project Directorate V
Division of Reactor Project III/IV/V
Office of Nuclear Reactor Regulation

FIGURE 1

Summary of Population Projections
for the Diablo Canyon Vicinity

Area (miles)	Original FSAR (1974) 2010	Revised FSAR (1985) 2010	Current 2010	Current 2025
0 - 6*	29	26	100	100
6 - 10	18,992	36,126	36,403	46,480
0 - 10	19,021	36,152	36,503	46,580
10 -50	508,130	438,035	555,108	730,566
0 - 50	527,151	474,187	591,611	777,146

* Reflects Low Population Zone

FIGURE 2

Diablo Canyon vs. INPO Industry Goal Average Annual Occupational Exposure

Year	Refueling Outages	Total Dose (person-rem per reactor unit) DCPP 3-Yr Average	Total Dose (person-rem per reactor unit) INPO 3-Yr Average Goal
1986	1	151	288
1987	1	168	288
1988	2	253	288
1989	1	275	288
1990	1	269	288
1991	2	214	288
1992*	1	199	288
1993*	1	195	288
1994*	2	218	288
1995*	1	202	185
1996*	1	188	185
1997*	2	150	185
1998*	1	150	185
1999*	1	150	185
2000*	2	150	185

* Projected, based on:

- 18-month fuel cycle operation
- 3.5 person-rem per non-outage month
- 1993 based on 80% of 1992 due to dose rate differences between units
- 50 person-rem savings per outage due to RTD bypass elimination in 1994

FIGURE 3

Comparison of Offsite Appendix I Radiation Exposure Limits and Actual Data

Parameter	Appendix I Dose Limits (mrem)	DCPP 5-Year Maximum Individual Dose (mrem)	Percent of Appendix I Dose Limit
Liquids	≤3	0.031	1.04
Gases	≤10	0.212	2.16
Iodines and Particulates	≤15	0.027	0.18

March 2, 1993

Docket Nos. 50-275
and 50-323

Mr. Gregory M. Rueger
Nuclear Power Generation, B14A
Pacific Gas and Electric Company
77 Beale Street, Room 1451
P.O. Box 770000
San Francisco, California 94177

Dear Mr. Rueger:

SUBJECT: ISSUANCE OF AMENDMENTS FOR DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 1 (TAC NO. M84826) AND UNIT NO. 2 (TAC NO. M82847)

The Commission has issued the enclosed Amendment No. 76 to Facility Operating License No. DPR-80 and Amendment No. 75 to Facility Operating License No. DPR-82 for the Diablo Canyon Nuclear Power Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated October 30, 1992.

These amendments allow for a one-time extension of the 7-day diesel generator allowed outage time to complete modifications and associated testing to support installation of a new sixth emergency diesel generator (2-3), implement Appendix R modifications, and perform preplanned maintenance/testing during the Unit 2 1993 refueling outage.

A copy of the related Safety Evaluation is enclosed. A notice of issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,
Original signed by:
Sheri R. Peterson, Project Manager
Project Directorate V
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 76 to DPR-80
2. Amendment No. 75 to DPR-82
3. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

March 2, 1993

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Project Directorate V
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2. Amendment No. 75 to DPR-82
3. Safety Evaluation

cc w/enclosures:
See next page

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Pacific Gas and Electric Company

Diablo Canyon

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-275

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 76
License No. DPR-80

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Pacific Gas & Electric Company (the licensee) dated October 30, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-80 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 76 , are hereby incorporated in the license. Pacific Gas & Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Theodore R. Quay

Theodore R. Quay, Director
Project Directorate V
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 2, 1993

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-323

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 75
License No. DPR-82

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Pacific Gas & Electric Company (the licensee) dated October 30, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-82 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 75 , are hereby incorporated in the license. Pacific Gas & Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Theodore R. Quay

Theodore R. Quay, Director
Project Directorate V
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 2, 1993

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 76 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 75 TO FACILITY OPERATING LICENSE NO. DPR-82

DOCKET NOS. 50-275 AND 50-323

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Overleaf pages are also included, as appropriate.

REMOVE	INSERT
3/4 8-2	3/4 8-2

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two independent circuits (one with delayed access) between the offsite transmission network and the Onsite Class 1E Distribution System, and

b. Three separate and independent diesel generators,* each with:

1. A separate engine-mounted fuel tank containing a minimum volume of 200 gallons of fuel, and

2. Two supply trains of the Diesel Fuel Oil Storage and Transfer System containing a minimum combined storage of 33,000 gallons of fuel for one unit operation** and 65,000 gallons of fuel for two unit operation.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With one offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter. If each of the diesel generators have not been successfully tested within the past 24 hours demonstrate its OPERABILITY by performing Specification 4.8.1.1.2a.2) separately for each such diesel generator within 24 hours. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With a diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Specification 4.8.1.1.1a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than preventive maintenance or

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*For a five diesel generator configuration, OPERABILITY of the third (common) diesel generator shall include the capability of functioning as a power source for the required unit upon automatic demand from that unit.

**The performance of Technical Specification Surveillance Requirement 4.8.1.1.3.e requires one fuel oil storage tank to be removed from service to be drained and cleaned. During this surveillance, the diesel generator fuel oil storage requirement for one unit operation in Modes 1 through 4 and one unit operation in Mode 6 with at least 23 feet of water above the reactor vessel flange or with the reactor vessel defueled is 35,000 gallons. The tank being cleaned may be inoperable for up to 10 days. For the duration of tank cleaning, temporary onsite fuel oil storage of 24,000 gallons will be maintained. Prior to removal of a tank from service, the offsite circuits required by Technical Specification 3.8.1.1.a will be verified to be OPERABLE.

ACTION (Continued)

testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generators by performing Specification 4.8.1.1.2a.2) within 24 hours*; restore the diesel generator to OPERABLE status within 7 days** or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With one offsite circuit and one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generators by performing Specification 4.8.1.1.2a.2) within 8 hours; restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the other A.C. power source (offsite circuit or diesel generator) to OPERABLE status in accordance with ACTION a. or b., as appropriate with the time requirement of that ACTION statement based on the time of initial loss of the remaining inoperable A.C. power source. A successful test of diesel OPERABILITY per Specification 4.8.1.1.2a.2) performed under this ACTION statement for OPERABLE diesels or a restored to OPERABLE diesel satisfies the diesel generator test requirement of ACTION a. or b.

d. With one diesel generator inoperable in addition to ACTION b. or c. above verify that:

1. All required systems, subsystems, trains, components and devices that depend on the remaining OPERABLE diesel generators as a source of emergency power are also OPERABLE, and
2. When in MODE 1, 2, or 3 that at least two auxiliary feedwater pumps are OPERABLE.

If these conditions are not satisfied within 2 hours be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

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*This test is required to be completed regardless of when the inoperable diesel generator is restored to operability.

**For a five diesel generator configuration, the inoperable diesel generator shall be returned to OPERABLE status within 72 hours. However, once per calendar year, the third (common) diesel generator may be inoperable for up to 7 days (14 days during the Unit 2, fifth refueling outage) for preplanned preventive maintenance and testing provided one unit is in Mode 5 or Mode 6, or in a defueled condition and the other four diesel generators are OPERABLE. Surveillance Requirements 4.8.1.1.1a and 4.8.1.1.2a.4 shall be performed within 48 hours prior to removal of Diesel Generator 3 from service. During the 7 day (14 days during the Unit 2, fifth refueling outage) period the remaining four diesel generators shall be verified OPERABLE at least once per 24 hours (in addition to any testing required by Table 4.8-1). In the event these conditions are not met, the unit in Mode 1, 2, 3, or 4 will be placed in HOT SHUTDOWN within 12 hours and COLD SHUTDOWN within the following 24 hours. The provisions of Technical Specification 3.0.4 do not apply.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 76 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 75 TO FACILITY OPERATING LICENSE NO. DPR-82

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-275 AND 50-323

1.0 INTRODUCTION

Pacific Gas and Electric Company (PG&E), by letter dated October 30, 1992 proposed that the facilities operating licenses DPR-80 and DPR-82 be amended to modify Diablo Canyon Unit 1 and 2 Technical Specifications (TS) Section 3/4.8.1, "A.C. Sources." This change is for a one-time extension of the 7-day diesel generator allowed outage time (AOT) to complete modifications and associated testing to support installation of a new sixth emergency diesel generator (2-3), implement Appendix R modifications, and perform preplanned maintenance/testing during the Unit 2 refueling outage.

The staff has reviewed the license's submittal and provides the following evaluation.

2.0 BACKGROUND

The Diablo Canyon Power Plant (DCPP) electrical power system consists of an offsite system and an onsite system. The offsite power system is comprised of a 230 kV and 500 kV transmission system. The onsite power system consists of a distribution system normally supplied by the offsite power system. In the event of a loss of offsite power, the onsite power system will be available to supply power via five emergency diesel generators. Two of the emergency diesel generators (EDGs) are dedicated to Unit 1, two of the EDGs are dedicated to Unit 2, and a fifth EDG (swing) is shared between both units. Each EDG consists of a self-contained diesel engine directly connected to an alternating current generator. Each EDG supplies a vital bus, with the swing EDG supplying either a Unit 1 or 2 vital bus.

3.0 EVALUATION

During the Unit 2 fifth refueling outage, EDG 1-3 will be removed from service for 14 days while Unit 1 is anticipated to be operating at 100 percent power. As part of the installation of EDG 2-3, EDG 1-3 will be separated from Unit 2

and preoperational testing will be performed to verify proper operation in the new configuration. During this time, EDG 1-3 will be inoperable. The Appendix R modifications consist of: (1) Addition of manual transfer switch contacts to the diesel generator control circuitry. This would isolate all fuses that could be affected by a control room or cable spreading room fire. (2) Addition a second set of contacts to connect power to the diesel generator control circuit through a different set of fuses. This will ensure positive transfer and operability of the diesel generator control circuit from the local diesel control panel. The Appendix R modifications are corrective actions described in the Licensee Event Report (LER) 2-92-001-01, submitted to the NRC in PG&E letter DCL-92-156, dated July 8, 1992.

In addition, prior to taking EDG 1-3 out of service for the proposed activities with Unit 2 down and the present five EDG configuration, PG&E will verify that Unit 2 is in Mode 5, Mode 6, or in a defueled condition and verify the motor-operated disconnect for Unit 2 is disconnected. Also, the operability of the offsite circuits required by TS 3.8.1.1 for operating unit and TS 3.8.1.2 for the shutdown unit will be verified by checking for the correct breaker alignments and availability of indicated power. The licensee will perform the Surveillance Requirements 4.8.1.1.1a and 4.8.1.1.2a.4 within 48 hours prior to removing EDG 1-3 from service and the operability of the Unit 1 auxiliary feedwater pumps will be verified. With the present five EDG configuration, PG&E will also ensure that the following conditions are met during the time that EDG 1-3 is out of service:

1. No preventative maintenance will be performed on the remaining EDGs.

2. The remaining four EDGs will be verified operable once every 24 hours.

3. The capability for cross-connecting of the vital busses between units using the operable EDGs in accordance with the provisions of Emergency Procedure (EP) ECA-0.3 "Restore 4kV Bus," will be verified.

The term "verify" as used above, means to administratively check by examining logs or other information to determine if certain components are out-of-service for maintenance or other reasons. It does not mean performance of the surveillance requirements needed to demonstrate the operability of the components. In addition to the compensatory measures outlined above, Administrative Procedure AD8.DC55, "Outage Safety Scheduling," has been developed specifically to address plant safety issues during outage conditions. This procedure was developed using the guidance provided by Nuclear Utility Management and Resource Council (NUMARC), "Shutdown Management Guidelines." The control established for the shutdown unit's vital electrical sources during outage conditions as described in AD8.DC55 exceed minimum shutdown requirements. In addition, the guidance provided in AD8.DC55 ensures the operability of two 4 kV vital buses at all times.

The NRC has previously approved a change to the DCPP TS to increase the EDG 1-3 allowed outage time (AOT) from 72 hours to 7 days for scheduled maintenance once per calendar year (License Amendments 44 and 43 for Units 1 and 2, respectively). The incremental risk increase associated with the one time

extension of the AOT from 7 to 14 days is 3.2E-6/yr, or approximately a 1.6 percent increase in total core damage frequency for the year in which the AOT would be implemented. The PRA for the increased AOT results determined that the probability of an accident previously evaluated does not significantly change by increasing the EDG AOT from 7 to 14 days. Additionally, the DCPP staff has determined that increasing the EDG 1-3 AOT will not involve physical alterations of any plant equipment and will not effect analytical assumptions regarding functioning of equipment designed to mitigate the consequences of accidents.

It is the opinion of the staff that based on the information submitted by the licensee the above change will not create the possibility of a new or different kind of accident from any previously evaluated. Therefore, the proposed change is found not to involve a reduction in a margin of safety and is acceptable to the staff.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the California State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (57 FR 58247). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: M. Pratt

Date: March 2, 1993