



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

September 17, 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. M85316) AND UNIT NO. 2 (TAC NO. M85317)

The Commission has issued the enclosed Amendment No. 83 to Facility Operating License No. DPR-80 and Amendment No. 82 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 December 24, 1992.

These amendments remove references to supplemental vital inverters in TS 3/4.8.2, "Onsite Power Distribution." The licensee intends to install new uninterruptible power supplies in March and September 1994 and as a result of this change, there will be no supplemental vital inverters at Diablo Canyon. The licensee proposes to change the vital instrument ac power supplies by replacing the existing six 7.5-kVA inverters with four 20-kVA inverters. New regulating transformers and transfer switches will add to the proposed betterment of the plant and should improve the reliability of the vital 120-V ac power supply. The increased power capacity will provide for future plant equipment.

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Mr. Gregory M. Rueger

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September 17, 1993

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. 83 to DPR-80
2. Amendment No. 82 to DPR-82
3. Safety Evaluation

cc w/enclosures:  
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Mr. Gregory M. Rueger

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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,



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

Enclosures:

1. Amendment No. 83 to DPR-80
2. Amendment No. 82 to DPR-82
3. Safety Evaluation

cc w/enclosures:  
See next page

Mr. Gregory M. Rueger  
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. 83  
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 December 24, 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. 83 , 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, 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: September 17, 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. 82  
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 December 24, 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. 82 , 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, 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: September 17, 1993



ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 83 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 82 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

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3/4 8-12  
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3/4 8-13  
3/4 8-14

INSERT

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3/4 8-12  
3/4 8-12a  
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**APPENDIX A TO LICENSE NOS. DPR-80 AND DPR-82  
 DIABLO CANYON NUCLEAR POWER PLANT UNITS 1 AND 2 TECHNICAL SPECIFICATIONS (NUREG-1151)**

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## ELECTRICAL POWER SYSTEMS

### A.C. SOURCES

#### SHUTDOWN

### LIMITING CONDITION FOR OPERATION

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

- a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and
- b. One diesel generator with:
  1. An engine-mounted fuel tank containing a minimum volume of 200 gallons of fuel,
  2. One supply train of the Diesel Fuel Oil Storage and Transfer system containing a minimum storage of 26,000 gallons\* of fuel in addition to the fuel required for the other unit.

APPLICABILITY: MODES 5 and 6.

#### ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel or crane operations with loads over the fuel storage pool. In addition, when in MODE 5 with the reactor coolant loops not filled, or in MODE 6 with the water level less than 23 feet above the reactor vessel flange, immediately initiate corrective action to restore the required sources to OPERABLE status as soon as possible.

### SURVEILLANCE REQUIREMENTS

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4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the requirements of Specifications 4.8.1.1.1, 4.8.1.1.2, 4.8.1.1.3, and 4.8.1.1.4, except for Specifications 4.8.1.1.1.b.2) and 4.8.1.1.2.a.2)c), b.2) for ESF timers, b.6), b.7), b.10), and b.11).

\*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 5 or 6 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.

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION

OPERATING

LIMITING CONDITION FOR OPERATION

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3.8.2.1 The following electrical busses shall be energized in the specified manner:

For Units 1 and 2, Cycle 6:

- a. 4160 volt Vital Bus F,
- b. 480 volt Vital Bus F,
- c. 4160 volt Vital Bus G,
- d. 480 volt Vital Bus G,
- e. 4160 volt Vital Bus H,
- f. 480 volt Vital Bus H,
- g. 120 volt Vital Instrument A.C. Bus 1 energized from its associated inverter connected to D.C. Bus 1\*,
- h. 120 volt Supplemental Vital Instrument A.C. Bus 1A energized from its associated inverter connected to D.C. Bus 1\*,
- i. 120 volt Vital Instrument A.C. Bus 2 energized from its associated inverter connected to D.C. Bus 2\*,
- j. 120 volt Vital Instrument A.C. Bus 3 energized from its associated inverter connected to D.C. Bus 3\*,
- k. 120 volt Supplemental Vital Instrument A.C. Bus 3A energized from its associated inverter connected to D.C. Bus 3\*,
- l. 120 volt Vital Instrument A.C. Bus 4 energized from its associated inverter connected to D.C. Bus 2\*,
- m. 125 volt D.C. Bus 1 energized from Battery Bank 1, and its associated full-capacity charger,
- n. 125 volt D.C. Bus 2 energized from Battery Bank 2, and its associated full-capacity charger, and
- o. 125 volt D.C. Bus 3 energized from Battery Bank 3, and its associated full-capacity charger.

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\*Two vital instrument A.C. inverters or one vital and one supplemental vital instrument A.C. inverter may be disconnected from their D.C. busses for up to 24 hours for the purpose of performing an equalizing charge on their associated battery bank provided: (1) their vital busses are energized, and (2) the vital busses associated with the other battery banks are energized from their associated inverters and connected to their associated D.C. busses.

## ELECTRICAL POWER SYSTEMS

### LIMITING CONDITION FOR OPERATION (Continued)

For Units 1 and 2, Cycle 7 and after:

- a. 4160 volt Vital Bus F,
- b. 480 volt Vital Bus F,
- c. 4160 volt Vital Bus G,
- d. 480 volt Vital Bus G,
- e. 4160 volt Vital Bus H,
- f. 480 volt Vital Bus H,
- g. 120 volt Vital Instrument A.C. Bus 1 energized from its associated inverter connected to D.C. Bus 1,
- h. 120 volt Vital Instrument A.C. Bus 2 energized from its associated inverter connected to D.C. Bus 2,
- i. 120 volt Vital Instrument A.C. Bus 3 energized from its associated inverter connected to D.C. Bus 3,
- j. 120 volt Vital Instrument A.C. Bus 4 energized from its associated inverter connected to D.C. Bus 2,
- k. 125 volt D.C. Bus 1 energized from Battery Bank 1, and its associated full-capacity charger,
- l. 125 volt D.C. Bus 2 energized from Battery Bank 2, and its associated full-capacity charger, and
- m. 125 volt D.C. Bus 3 energized from Battery Bank 3, and its associated full-capacity charger.

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

#### ACTION:

For Units 1 and 2, Cycle 6:

- a. With one of the required 4160 volt and/or associated 480 volt vital busses not energized, re-energize them within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one vital instrument A.C. bus not energized from its associated inverter, or with one inverter not connected to its associated D.C. bus, re-energize the vital instrument A.C. bus from an alternate source within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; re-energize the vital instrument A.C. bus from its associated inverter connected to its associated D.C. bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With more than one full-capacity charger receiving power simultaneously from a single 480 volt vital bus or any D.C. bus not receiving power from its associated A.C. division, restore the system to a configuration wherein each charger is powered from its associated 480 volt vital bus within 14 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

## ELECTRICAL POWER SYSTEMS

### LIMITING CONDITION FOR OPERATION (Continued)

#### ACTION (Continued) For Units 1 and 2, Cycle 6

- d. With one D.C. bus not energized from its associated battery bank and a full-capacity charger, re-energize it from its associated battery bank and a full-capacity charger within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- e. With one supplemental vital instrument A.C. bus not energized from its associated inverter or with its inverter not connected to its associated D.C. bus, re-energize the supplemental vital instrument A.C. bus from an alternate source within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; re-energize the supplemental vital instrument A.C. bus from its associated inverter connected to its associated D.C. bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### For Units 1 and 2, Cycle 7 and after:

- a. With one of the required 4160 volt and/or associated 480 volt vital busses not energized, re-energize them within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one vital instrument A.C. bus not energized from its associated inverter, or with one inverter not connected to its associated D.C. bus, re-energize the vital instrument A.C. bus from an alternate source within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; re-energize the vital instrument A.C. bus from its associated inverter connected to its associated D.C. bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With more than one full-capacity charger receiving power simultaneously from a single 480 volt vital bus or any D.C. bus not receiving power from its associated A.C. division, restore the system to a configuration wherein each charger is powered from its associated 480 volt vital bus within 14 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- d. With one D.C. bus not energized from its associated battery bank and a full-capacity charger, re-energize it from its associated battery bank and a full-capacity charger within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

### SURVEILLANCE REQUIREMENTS

4.8.2.1 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

## ELECTRICAL POWER SYSTEMS

### ONSITE POWER DISTRIBUTION

#### SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

---

3.8.2.2 As a minimum, the following electrical busses shall be energized in the specified manner:

For Units 1 and 2, Cycle 6:

- a. One 4160-volt and its associated 480-volt A.C. vital bus,
- b. Two 120-volt vital instrument A.C. busses and one 120-volt supplemental vital instrument A.C. bus energized from their associated inverters connected to their respective D.C. busses, and
- c. One 125-volt D.C. bus energized from its associated battery bank and full-capacity charger supplied from its associated OPERABLE A.C. vital bus.

For Units 1 and 2, Cycle 7 after:

- a. One 4160-volt and its associated 480-volt A.C. vital bus,
- b. Two 120-volt vital instrument A.C. busses energized from their associated inverters connected to their respective D.C. busses, and
- c. One 125-volt D.C. bus energized from its associated battery bank and full-capacity charger supplied from its associated OPERABLE A.C. vital bus.

APPLICABILITY: MODES 5 and 6.

#### ACTION:

With any of the above required electrical busses not energized in the required manner, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, or movement of irradiated fuel, initiate corrective action to energize the required electrical busses in the specified manner as soon as possible.

#### SURVEILLANCE REQUIREMENTS

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4.8.2.2 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 83 TO FACILITY OPERATING LICENSE NO. DPR-80  
AND AMENDMENT NO. 82 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 BACKGROUND

By letter dated December 24, 1992, Pacific Gas and Electric Company (PG&E) proposed to amend Facility Operating Licenses DPR-80 and DPR-82. The amendment would remove from the subject technical specification (TS) all references to supplemental vital inverters and supplemental vital busses for Units 1 and 2 cycle 7 and after. PG&E intends to install new uninterruptible power supplies (UPSs) in March and September 1994 for Units 1 and 2, respectively. For Units 1 and 2 cycle 6 the references to the existing six UPSs will remain in the subject TS. As a result of this equipment change, Diablo Canyon Units 1 and 2 will no longer have supplemental vital inverters. Vital inverters convert dc power to 120 V ac as part of the UPSs that supply power to vital ac distribution panels.

PG&E proposes to replace the existing six UPSs with four larger UPSs. Additional regulating transformers and transfer switches will provide increased redundancy to the UPSs. Currently, vital instrument ac power is supplied by four 120-V vital instrument ac buses and two 120-V supplemental vital instrument ac buses, each energized from its associated inverter. The six inverters are each rated at 7.5 kVA. These inverters are to be replaced by four inverters rated at 20 kVA each. The increase in capacity is needed to power future instrument systems loads. All six existing inverters share one voltage regulator as a backup power supply. With the new configuration, each inverter will have its own regulating backup transformer, which could be connected to either the normal 480-V ac vital bus or an alternative 480-V ac vital bus. Each of the four new Class 1E UPSs will contain a regulating rectifier, inverter, static bypass switch, and manual bypass switch. An auctioneer will automatically select the higher of the two dc sources. The preferred source for each inverter normally will be the rectified 480 V ac power from the vital bus. Each new UPS will contain a static transfer switch that will automatically transfer the 120-V ac vital loads to the new dedicated regulating transformer fed by the associated 480-V ac vital bus if the inverter or its sources should fail. In addition, each regulating transformer will be connected to a manual transfer switch that will let the transformer be connected to its alternative 480-V ac vital bus if the normal



480-V ac vital bus should fail. Thus, multiple failures would be needed to interrupt the UPS output to the 120-V ac vital loads for longer intervals than required to switch from one source to another.

## 2.0 EVALUATION

The proposed new equipment will be installed in accordance with applicable codes and standards to upgrade plant equipment reliability, capacity, and flexibility. The six 7.5-kVA inverters (45 kVA total) will be replaced by four new inverters (80 kVA total) to increase load capacity and provide automatic load transfer functions. The addition of new static transfer switches and dedicated bypass voltage regulating transformers will improve power availability in the event of a single equipment failure. By preserving the independence of the four UPSs and of their vital instrument ac panels, the new design continues the reliability of the existing design because of its redundancy. The four UPSs will each be supplied by a plant battery that will be connectible to either of two chargers which, in turn, will be connected to different 480-V ac vital buses.

Because of the increased capability of the inverters and the increased number of power supplies to the UPS, either by rectification or directly by means of new transformers and switches, there is no significant increase in the probability of occurrence of an accident previously evaluated; a decrease is more probable.

Previous analysis assumed a loss of one division of onsite power distribution (one vital inverter and one supplemental inverter); therefore, the consolidation of the vital and supplemental inverters does not alter the basis of the previous analysis. The new UPSs will improve the capability of the onsite power distribution system to fulfill its safety-related function to provide an uninterrupted supply of 120-V ac power required for plant safety. The new equipment will be qualified and installed to applicable codes and standards, and operated within the requirements of the limiting conditions for operation (LCO) specified in the proposed TS. These LCO restrictions are the same as those in the existing TS. Therefore, the proposed changes do not create the possibility of a new kind of accident or one that is different from any accident previously evaluated. Nor do the proposed changes involve a significant reduction in any margin of safety.

The staff has evaluated the proposed vital inverter equipment changes, and as requested by the licensee in its letter of December 24, 1992, it has reviewed the wording changes of the associated TS. The staff concludes that the licensee has provided adequate justification for these changes and the changes are therefore acceptable.

## 3.0 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.

#### 4.0 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. 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 (58 FR 8775). 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.

#### 5.0 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: C. Morris

Date: September 17, 1993