

January 3, 1996

Mr. Gregory M. Rueger
Pacific Gas and Electric Company
NPG - Mail Code A10D
P. O. Box 770000
San Francisco, California 94177

SUBJECT: ISSUANCE OF AMENDMENTS FOR DIABLO CANYON NUCLEAR POWER PLANT,
(DCL-95-219) UNIT NO. 1 (TAC NO. M93939) AND UNIT NO. 2
(TAC NO. M93940)

Dear Mr. Rueger:

The Commission has issued the enclosed Amendment No. 109 to Facility Operating License No. DPR-80 and Amendment No. 108 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 September 29, 1995.

These amendments add a one-time footnote to the Technical Specifications related to the diesel generator fuel oil storage and transfer system to permit each of the existing storage tanks to be removed from service for up to 60 days so they can be replaced with double walled tanks and piping that comply with new California regulations.

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

Sincerely,

Original Signed By

Steven D. Bloom, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

CP-1

Docket Nos. 50-275
and 50-323

- Enclosures: 1. Amendment No. 109 to DPR-80
- 2. Amendment No. 108 to DPR-82
- 3. Safety Evaluation

cc w/encls: See next page

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- JKilcrease, RIV
- CGrimes, 011E22
- JBianchi, WCFO (2)
- GHill (4), T5C3
- OGC, 015B18
- ACRS, T2E26
- DChamberlain, RIV
- CMH2 (SE)
- EPeyton
- CMcCracken

DOCUMENT NAME: DC93939.AMD

OFC	LA/PDIV-2	DRPE/PM	PDIV-2/PM	SPLB/C #13654A	OGC
NAME	EPeyton	RCClark	SBloom:ye	CMcCracken	SdHorn
DATE	12/7/95	12/08/95	12/12/95	12/13/95	12/22/95

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Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

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DISTRIBUTION

Docket File CGrimes, 011E22
PUBLIC JBianchi, WCFO (2)
PDIV-2 Reading GHill (4), T5C3
EGA1 OGC, 015B18
LHurley, RIV ACRS, T2E26
WBateman DChamberlain, RIV
KPerkins, WCFO CMH2 (SE)
SBloom EPeyton
RClark MCracken
JKilcrease, RIV

DOCUMENT NAME: DC93939.AMD

OFC	LA/PDIV-2	DRPE/PM	PDIV-2/PM	SPLB/C #13554A	OGC with changes
NAME	EPeyton	RClark	SBloom:ye	McCracken	S.Horn
DATE	12/17/95	12/08/95	12/12/95	12/13/95	12/22/95

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

January 3, 1996

Mr. Gregory M. Rueger
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P. O. Box 770000
San Francisco, California 94177

SUBJECT: ISSUANCE OF AMENDMENTS FOR DIABLO CANYON NUCLEAR POWER PLANT,
(DCL-95-219) UNIT NO. 1 (TAC NO. M93939) AND UNIT NO. 2
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A copy of the related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven D. Bloom".

Steven D. Bloom, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-275
and 50-323

Enclosures: 1. Amendment No. 109 to DPR-80
2. Amendment No. 108 to DPR-82
3. Safety Evaluation

cc w/encls: See next page

cc w/encls:

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

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-275

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 109
License No. DPR-80

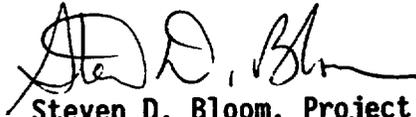
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Pacific Gas and Electric Company (the licensee) dated September 29, 1995, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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. 109, are hereby incorporated in the license. Pacific Gas and 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 its date of issuance to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven D. Bloom, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: January 3, 1996



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

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-323

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 108
License No. DPR-82

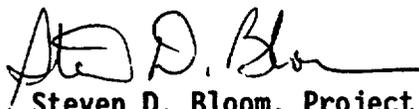
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Pacific Gas and Electric Company (the licensee) dated September 29, 1995, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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. 108, are hereby incorporated in the license. Pacific Gas and 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 its date of issuance to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven D. Bloom, Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: January 3, 1996

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 109 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 108 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 Amendment number and contain marginal lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE

3/4 8-1
3/4 8-2
3/4 8-11

INSERT

3/4 8-1
3/4 8-2
3/4 8-11

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 250 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.

* 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.

**The performance of modifications to the diesel fuel oil storage and transfer system requires one fuel oil storage tank at a time to be drained and replaced with a new storage tank. During this period, the diesel generator fuel oil storage requirement for two unit operation in Modes 1 - 4, or for one unit operation in Modes 1 - 4 and one unit in Mode 5 or 6 is 35,000 gallons. A total of up to 120 days may be required to complete the replacement of both tanks. For the duration of the tank replacement, temporary onsite storage of 30,000 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

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

- 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 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.

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

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

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. A separate engine-mounted fuel tank containing a minimum volume of 250 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

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 3.8.1.2.a will be verified to be OPERABLE.

**The performance of modifications to the diesel fuel oil storage and transfer system requires one fuel oil storage tank at a time to be drained and replaced with a new storage tank. During this period, the diesel generator fuel oil storage requirement for one or two unit operation in Modes 5 and 6 is 35,000 gallons. A total of up to 120 days may be required to complete the replacement of both tanks. For the duration of the tank replacement, temporary onsite storage of 30,000 gallons will be maintained. Prior to removal of a tank from service, the offsite circuits required by Technical Specification 3.8.1.2a. will be verified to be OPERABLE.

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION

OPERATING

LIMITING CONDITION FOR OPERATION

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

- 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:

- 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.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 109 TO FACILITY OPERATING LICENSE NO. DPR-80
AND AMENDMENT NO. 108 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

By application dated September 29, 1995, Pacific Gas and Electric Company (or the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License Nos. DPR-80 and DPR-82) for the Diablo Canyon Nuclear Power Plant, Units 1 and 2. The proposed changes would add a one-time footnote to the Technical Specifications (TSs) related to the emergency diesel generator diesel fuel oil storage and transfer system to permit the existing storage tanks to be replaced with double walled tanks and piping that comply with new California regulations.

2.0 EVALUATION

2.1 Background

The diesel generator fuel oil (DFO) storage and transfer system is described in Section 9.5.4 of the updated Final Safety Analysis Report (FSAR). The diesel generator fuel oil system is provided to supply sufficient diesel oil to the six emergency diesel generators (EDGs) for Units 1 and 2 for seven days of onsite power generation. The supply of fuel beyond the seven-day period is ensured by the availability of offsite sources and a reliable delivery system. Further, historical data on utility systems has shown that when there has been a loss of offsite power to a generating station, power has almost always been restored within 24 hours, so a 7-day supply of fuel for the onsite AC diesel generators is adequate.

There are two underground diesel fuel oil storage tanks, each with a storage capacity of 40,000 gallons. There are two diesel fuel oil transfer pumps located below ground level, each adjacent to a storage tank but in separate compartments. One pump is more than adequate to supply the six diesel generators. The two diesel fuel oil supply headers to each unit are routed in separate trenches. The pumps and headers supply the 550-gallon capacity day tanks built into the base of each diesel generator. Any combination of one storage tank and one pump is capable of serving all six day tanks.

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On May 5, 1994, Title 23, "Waters," of the California Code of Regulations (CCRs) became effective. Included in the CCRs are requirements for underground fuel oil storage tanks and piping. Specifically, the regulations require the following:

1. All buried underground storage tanks containing engine fuel oil must be retrofitted with a secondary containment (i.e., double-walled);
2. All buried underground piping must be double walled or installed within a structure designed to contain leakage; and
3. A leakage detection system must be installed to identify leakage from piping.

To comply with the CCRs, the DFO storage tanks must be modified by December 22, 1998. The required modifications will render one DFO storage tank and its associated piping up to the transfer pump vault inoperable for up to 60 days. Both DFO storage tanks and associated piping require modifications, and, therefore, a total of 120 days is required to complete these modifications.

The specific work and modifications to the DFO storage and transfer system include:

1. Replacement of each 40,000 gallon storage tank with a new 50,000 gallon, double-walled tank;
2. Replacement of the piping between each DFO storage tank and the DFO transfer pumps;
3. Installation of a leakage detection system for the tank and piping; and
4. Inspection, refilling and testing of the completed work to verify operability following the modifications.

PG&E estimates that the modifications will take approximately 60 days for each tank and its associated suction transfer piping (total of 120 days for both trains). This estimated time is from the tank and associated piping being removed from service to when it is returned to service, and is based on a schedule with work being performed on a 2-shifts per day, 7-days per week basis.

Each replacement DFO storage tank has an increased nominal capacity over the existing storage tanks of 10,000 gallons (approximately 25 percent). This size tank was chosen because it provides the greatest capacity, while allowing use of the existing tank location (i.e., in close proximity to DFO transfer pumps). The replacement tanks will be able to use the same concrete foundation as the existing tanks, are only slightly dimensionally larger, and therefore, are able to use the same location.

The DFO storage tanks and the piping between the tanks and the DFO transfer pumps are buried and, therefore, require modifications to comply with the CCRs. Each DFO transfer pump is located in a concrete vault and is connected to the buried piping via a flanged connection upstream of the pump suction cross-tie line. The CCRs do require modifications to the DFO transfer pump vaults. However, these modifications will not require the DFO transfer pumps to be taken out of service. No modification to the DFO transfer pumps and suction cross-tie piping is required during the tank and piping replacement.

2.2 Proposed TS Changes

TS 3.8.1.1b.2, A.C. Sources - Operating, limiting condition for operation (LCO) in Modes 1 - 4 requires:

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.

TS 3.8.1.2b.2, A.C. Sources - Shutdown, LCO in Modes 5 and 6 requires:

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.

The licensee proposes to add the following footnote to TS 3.8.1.1b.2:

The performance of modifications to the diesel fuel oil storage and transfer system requires one fuel oil storage tank at a time to be drained and replaced with a new storage tank. During this period, the diesel generator fuel oil storage requirement for two unit operation in Modes 1 - 4, or for one unit operation in Modes 1 - 4 and one unit in Mode 5 or 6 is 35,000 gallons. A total of up to 120 days may be required to complete the replacement of both tanks. For the duration of the tank replacement, temporary onsite storage of 30,000 gallons will be maintained. Prior to removal of a tank from service, the offsite circuits required by Technical Specification 3.8.1.1a. will be verified to be OPERABLE.

The licensee proposes to add the following footnote to TS 3.8.1.2b.2:

The performance of modifications to the diesel fuel oil storage and transfer system requires one fuel oil storage tank at a time to be drained and replaced with a new storage tank. During this period, the diesel generator fuel oil storage requirement for one or two unit operation in Modes 5 and 6 is 35,000 gallons. A total of up to 120 days may be required to complete the replacement of both tanks. For the duration of the tank replacement, temporary onsite storage of 30,000 gallons will be maintained. Prior to removal of a tank from service, the offsite circuits required by Technical Specification 3.8.1.2a. will be verified to be OPERABLE.

2.3 Assessment

The licensee has stated that the fuel oil inventory that will be maintained in the operable permanent DFO storage tank will be at least 35,000 gallons, which is sufficient for the EDGs to power the minimum engineered safety features (ESF) systems for approximately four days. This is more than sufficient time to cool down both units from full power operation, if necessary, under postulated transient or accident conditions.

As an additional compensatory measure, the licensee is planning to provide a temporary onsite DFO storage of 30,000 gallons (useable) so that there would be a total of 65,000 gallons of diesel fuel available onsite. This is as much fuel oil as is required by the present TSs (3.8.1.1b.2) for two unit operation. To assure that this additional fuel oil is available, if needed, the licensee has also proposed the following actions:

- a. The tank providing the temporary storage will be seismically supported to assure the tank maintains its function following a seismic event. The temporary storage complies with the requirements of FSAR Appendix 9.5B, Section F. FSAR Appendix 9.5B requires that all above-ground DFO storage tanks be located at least 50 feet from any building containing safety-related equipment.
- b. To assure that the DFO in the temporary, onsite storage tank is of acceptable quality, TS 4.8.1.1.3c. and TS 4.8.1.1.3d. will be applied to the temporary, onsite storage tank.
- c. A DFO tanker truck will also be located onsite inside the plant-protected area to transport fuel oil from the temporary storage tank to the in service permanent DFO storage tank, if required to make up DFO inventory in the permanent tank.
- d. Security measures will be established to protect the temporary onsite storage tank.

It is highly unlikely that Diablo Canyon would have a loss of offsite power (LOOP) where the units would have to rely on the six onsite diesel generators for more than 24 hours. To reduce the already low probability of a LOOP, the licensee will minimize planned maintenance on the 230 kV and 500 kV offsite power transmission system when a DFO storage tank is removed from service. If there is anticipated severe weather or potential grid disturbances (e.g., a wildland fire), the DFO storage tank replacement will be postponed. If restoration of offsite power were to be delayed following a postulated LOOP event, DFO can be transported to the site from the fuel oil supplier within 24 hours.

Surveillance Requirement 4.8.1.1.1b requires that the required independent circuits between the offsite transmission network and the onsite Class IE distribution system be determined to be OPERABLE at least once per seven days by verifying correct breaker alignments and indicated power availability.

During the time that a DFO storage tank is removed from service, the licensee is proposing to perform this surveillance at a frequency of once per 12 hours instead of once per 7 days. Increasing the surveillance frequency will provide increased assurance that offsite power will be available to the Class 1E distribution system, thus reducing the potential importance of the diesel generators, although the proposed surveillance frequency seems excessive.

The licensee has also proposed several other compensatory measures when the DFO storage tanks are being replaced:

- a. Two supply trains of the DFO storage and transfer system (downstream of the suction pipe cross connection), required by TS 3.8.1.1.b.2, will be verified to be OPERABLE for DFO transfer from the tank remaining in service within seven days of removing the other tank from service.
- b. An independent means of fuel oil transfer is also provided by the portable DFO transfer pump. This is a non-safety related diesel powered pump which can bypass the tank foot valve, suction line and transfer pump and supply DFO from the tank to the transfer pump discharge. This pump can take suction directly from the DFO storage tank and discharge into the DFO piping distribution system. To assure that the pump is operable, it is now tested every 3 months.

To assure the portable DFO transfer pump will be available following a seismic event, the portable DFO transfer pump is located in a seismically sound, accessible location in the turbine building. The portable DFO transfer pump will be tested within seven days of removing the DFO tank from service.

- c. The EDG day tanks are required by TS 3.8.1.1b.1. to contain a minimum volume of 250 gallons. This amount of DFO is adequate to start and operate the EDGs for approximately 60 minutes at rated load. To provide additional DFO in each EDG day tank, following any run of an EDG, the EDG day tank will be filled to at least 500 gallons.

As discussed above, the licensee will have about 65,000 gallons of diesel fuel onsite during the tank replacement project, which is sufficient for about seven days operation for the six diesel generators and as much fuel as is required by the present TSs.

The seven day supply would permit operation of the diesels for considerably longer than it took to restore offsite power to Turkey Point 3 and 4 after the devastation of Hurricane Andrew. The four day supply in the operating tank is more than adequate for any likely loss of offsite power event. Considering the other compensatory actions proposed by the licensee, the one-time changes to the TSs are acceptable.

3.0 PROBABILISTIC RISK ASSESSMENT

As discussed above, the licensee performed a comprehensive safety assessment of the proposed changes to the TSs using the traditional approach. Using the same deterministic approach, the NRC staff has determined that the proposed changes are acceptable.

Pacific Gas and Electric Company (PG&E) also supported the proposed TS changes with a probabilistic risk assessment (PRA). The PRA analysis was performed to quantify the increase in risk associated with the proposed one-time allowed outage time (AOT) extension for the DFO storage and transfer system. The PRA considered the effect on risk of removing each of the DFO storage tanks for 60 days (in sequence) and effectively having only one tank supplying DFO to both trains of the DFO transfer system for a total of 120 days.

In response to Generic Letter (GL) 88-20, PG&E submitted an Individual Plant Examination (IPE) for severe accident vulnerabilities on April 14, 1992. The basis for the IPE was a full-scope level 1 PRA originally performed for Unit 1 in 1988 (and reviewed by the NRC), which was updated in 1991 to reflect plant design as of June 1990 and included a level 2 containment performance analysis. The licensee estimated that the annual core damage frequency (CDF) at Diablo Canyon due to internal initiating events (including flood events) to be 8.8×10^{-5} per reactor year, which, at the time, was in the upper range for Westinghouse four-loop PWRs. The licensee's estimate of the contributions of the major initiating event groups to the total CDF were 41 percent for loss of offsite power, 26 percent for general transients, 9.3 percent for all loss of coolant accidents, 8.2 percent for loss of any one of three vital 125 V DC buses, and 6.2 percent for loss of the auxiliary salt water system (ASW) or the component cooling water (CCW) system. The licensee has maintained a "living" PRA, periodically updating it to reflect various plant modifications, improved procedures, revisions to the training provided to plant staff and use of more plant-specific data. For example, at the time PG&E submitted the IPE, Diablo Canyon 1 and 2 had five diesel generators, with one of these being a swing diesel generator that could supply power to either units safety bus. Failure of this swing diesel contributed to sequences which accounted for 34 percent of the estimated CDF.

PG&E subsequently installed a sixth diesel generator. A sensitivity-type analysis at the time indicated that with each vital bus having a dedicated diesel generator, the core damage frequency was reduced by 14 percent to 18 percent, since the possible impact of a LOOP was reduced. The current average annual CDF is 5.5×10^{-5} per reactor year.

PG&E management has been and is committed to using a probabilistic risk assessment program. The PRA personnel interact with engineering and operations personnel to assess the potential impacts of significant design and/or operational changes on the PRA result. In the September 29, 1995 submittal, the licensee discussed the possible effect of removing each of the DFO storage tanks for 60 days.

The PRA considered one permanent DFO storage tank in service, the transfer system alignments, and availability of the portable DFO transfer pump. The proposed operating sequence, described above, was also considered in calculating the new core damage frequency resulting from internal and seismic initiators. Additional core damage probability (CDP) due to internal fires, was initially screened out due to the low probability of fire initiating events coincident with an independent loss of offsite power in which the fuel oil system would be demanded. Further, additional CDP due to seismic initiators is a small fraction of that due to internal initiators.

The PRA analysis was performed for the system alignment with the standby transfer pump in "AUTO". The PRA analysis calculated an additional increase in CDP of 3.1×10^{-6} *, which reflects a 6 percent increase in annualized core damage frequency.

The PRA analysis was also performed for the system alignment with the standby transfer pump in "On". This alignment would enable continuous operation of the DFO transfer pump, thereby reducing the potential for a pump start demand failure. Utilizing this system alignment, the PRA analysis calculated an additional increase in CDP of 1.8×10^{-6} *, which reflects a 3.3 percent increase in annualized core damage frequency.

As discussed previously, planned maintenance that would affect the availability of the 230 kV and 500 kV offsite power sources will be minimized during the time that a DFO storage tank is removed from service. The effects on the PRA analysis of 230 kV line outages of up to 9 hours were considered and determined to not be risk significant (i.e., $<1 \times 10^{-6}$).

The compensatory measures, as described above, that are not credited in the PRA analysis, will give added assurance that the overall plant risk is being managed acceptably during the DFO storage and transfer system replacement period.

The probabilistic safety assessment of the proposed one-time changes to the TSs to permit replacement of the DFO storage tanks fully supports and complements the deterministic assessment discussed in Section 2.0 of this safety evaluation. The PRA analysis confirms that having one DFO storage tank out of service for 60 days results in no significant reduction in the margin of safety and that the proposed changes to the TSs are acceptable.

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.

* The computed CDP is based upon PRA modeling which conservatively does not include the availability of fuel oil from both the temporary, onsite storage tank and the onsite DFO tanker truck.

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 change 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 (60 FR 58403). 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

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