May 17, 2006

Mr. John S. Keenan
Senior Vice President and Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Power Plant
P.O. Box 770000
San Francisco, CA 94177-0001

SUBJECT: DIABLO CANYON POWER PLANT, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS RE: THE AUXILIARY FEEDWATER SYSTEM (TAC NOS. MC8204 AND MC8205)

Dear Mr. Keenan:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 186 to Facility Operating License No. DPR-80 and Amendment No. 188 to Facility Operating License No. DPR-82 for the Diablo Canyon Power Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated July 29, 2005.

The amendments revise TS 3.7.5, “Auxiliary Feedwater (AFW) System,” to change the frequency of Surveillance Requirement 3.7.5.6 from 92 days to 24 months.

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,

/RA/

Alan Wang, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-275
and 50-323

Enclosures:
1. Amendment No. 186 to DPR-80
2. Amendment No. 188 to DPR-82
3. Safety Evaluation

cc w/encls: See next page

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PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-275

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 186
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 July 29, 2005, 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. 186, 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 and shall be implemented within 120 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

David Terao, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: May 17, 2006

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-323

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 188
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 July 29, 2005, 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. 188, 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 and shall be implemented within 120 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

David Terao, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: May 17, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 186

TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 188 TO FACILITY OPERATING LICENSE NO. DPR-82

DOCKET NOS. 50-275 AND 50-323

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by an amendment number and contains a marginal line indicating the area of change.

REMOVE	INSERT
3.7-12	3.7-12

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 186 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 188 TO FACILITY OPERATING LICENSE NO. DPR-82

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-275 AND 50-323

1.0 INTRODUCTION

By application dated July 29, 2005 (Agencywide Documents Access and Management System Accession No. ML052210044), Pacific Gas and Electric Company (PG&E 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 Power Plant (DCPP), Units 1 and 2.

The proposed amendments would revise Technical Specification (TS) 3.7.5, "Auxiliary Feedwater (AFW) System." Specifically, the proposed changes would revise Surveillance Requirement (SR) 3.7.5.6, which currently requires that full cycling of fire water storage tank (FWST) valves in the flow path for realignment to the auxiliary feedwater system be performed once per 92 days. The licensee proposes to extend the frequency for SR 3.7.5.6 to once per 24 months.

2.0 REGULATORY EVALUATION

Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), requires that, whenever a holder of a license or construction permit desires to amend the license (including the TSs incorporated into the license) or permit, an application for an amendment must be filed with the Commission, as specified in 10 CFR 50.4, fully describing the changes desired, and following as far as applicable, the form prescribed for the original applications.

The *Code of Federal Regulations*, 10 CFR 50.55a, "Codes and standards," requires that inservice testing (IST) of certain American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 pumps and valves be performed in accordance with the specified ASME Code incorporated by reference in the regulations, except where alternatives have been authorized or relief has been requested by the licensee and granted by the Commission pursuant to 10 CFR 50.55a(a)(3)(i), (a)(3)(ii), or (f)(6)(i). The DCPP Units 1 and 2 are in their third 10-year IST intervals. The third 10-year IST interval began on January 1, 2006, for Unit 1 and will begin on June 1, 2006, for Unit 2. The IST program was developed in accordance with the 2001 Edition through 2003 Addenda of the ASME Code for Operation and Maintenance of Nuclear Power Plants (ASME OM Code). These valves are being tested on a frequency as required by 10 CFR 50.55a.

3.0 TECHNICAL EVALUATION

3.1 Specific Change Requested

The licensee has proposed to revise the frequency interval of SR 3.7.5.6 from 92 days to 24 months. This SR requires verifying the FWST is capable of being aligned to the AFW system by cycling valves in the flow path necessary for the realignment. This is accomplished by full-stroke cycling of the valves in the flow path necessary to align the FWST to the AFW pumps' suction. The TS Bases will also be changed to identify that the revised manual valve cycling frequency is in accordance with ASME OM Code requirements and the modifications contained in 10 CFR 50.55a(b)(3)(vi).

3.2 Basis for Changes

The safety function of the AFW system is to automatically provide feedwater to the steam generators (SG) to remove decay and sensible heat from the reactor coolant system (RCS) on the loss-of-normal feedwater supply. The Condensate Storage Tank (CST) and FWST provide a passive flow of water, by gravity, to the AFW system. The AFW system provides water to the SGs to accomplish the heat removal function. The steam produced is released to the atmosphere by the main steam safety valves or atmospheric dump valves, if the main steam isolation valves are shut. The CST and FWST provide water to remove decay heat and cool down the plant following all events in the accident analyses as discussed in the Final Safety Analysis Report Update. Normally, the CST is aligned to the AFW pumps’ suction; however, should the CST become exhausted, the FWST may be realigned to the AFW pumps’ suction via manual valves. The limiting event for AFW inventory; i.e., CST and FWST minimum volumes, is based on a loss-of-offsite power, which assumes a reduced RCS cooldown rate on natural circulation and requires seismically-qualified water sources. The lower RCS cooldown rate increases the cooldown period until the residual heat removal system can be used to remove decay heat. The extended cooldown time thus requires more AFW supply than can be provided by the seismically-qualified portion of the CST. The seismically-qualified FWST provides the additional water inventory to envelop that required for a worst case natural circulation cooldown. Since there is insufficient volume in the CST alone for long-term cooling needs, a seismically-qualified flow path from the FWST to the AFW pumps’ suction capable of withstanding an assumed seismic failure of any single valve (including a valve jammed shut) is required.

SR 3.7.5.6 verifies that the FWST is capable of being aligned to the AFW pumps’ suction. This assures that this additional supply of required AFW is available from the seismically-qualified FWST should it be needed for a natural circulation cooldown. The SR requires full-stroke cycling of valves in the flow path necessary to align the FWST to the AFW pumps' suction.

Full-stroke exercising of the affected manual valves to verify the safety function in accordance with the IST program is also in compliance with the ASME OM Code. The licensee states:

> OM Code paragraph ISTC-3540, “Manual Valves,” updated in the 1999 Addenda to the code, specifies that manual valves shall be full-stroke cycled at least once every five years, except where adverse conditions may require the valve to be

> tested more frequently to ensure operational readiness. The DCPP FWST supply valves controlled by SR 3.7.5.6 are all located indoors and are not exposed to adverse conditions.
>
> 10 CFR 50.55a(b)(3)(vi) requires that manual valves be exercised on a two year interval rather than the five-year interval specified in paragraph ISTC-3540 of the 1999 Addenda through the latest edition and addenda incorporated by reference in paragraph (b)(3), provided that adverse conditions do not require more frequent testing.

Maintenance and operating history demonstrate the valves can be relied upon to perform their function in an emergency. No problems have been identified whereby extension of the surveillance frequency would challenge the readiness of the valves to realign the FWST to the AFW pumps' suction, if required. The licensee states:

> The FWST supply valves controlled by SR 3.7.5.6 were originally equipped with motor operators. However, due to performance problems, the motor operators were removed in the early 1990s. Maintenance records since the motor operators were removed show no instances of a valve being found in an inoperable condition or incapable of being repositioned. Maintenance records show that corrective action has been required on several occasions to correct problems such as seat leakage, stem leakage, position stop adjustments and on two of the valves, chainfall repairs. None of these problems would have prevented the valve from performing its design function to be opened in an emergency to provide FWST water to the AFW system. Operating and maintenance histories of the FWST supply valves show that these valves have been capable of full-stroke cycling each time they were tested. There is no evidence of any time-related degradation mechanism that would prevent the valves from passing SR 3.7.5.6 or performing their design function in the future.

The licensee also identified a condition where the AFW system was contaminated with impurities from the raw water storage system due to valve leakage. The raw water storage and FWST share a common header that is used as the backup supply for the AFW system. The licensee stated that changes were made to the maintenance and operating procedures for the affected valves, including procedure revisions to minimize contamination of the AFW system when cycling the FWST supply header valves for testing. The licensee determined that a reduced frequency of cycling these valves for surveillance would also reduce challenges to the AFW system by contamination with impurities from the raw water system.

In conclusion, the licensee states:

> Increasing the frequency interval for SR 3.7.5.6 from 92 days to 24 months is acceptable because the change meets the requirements of both the OM Code and 10 CFR 50.55a(b)(3)(vi). The change is justified by review of the maintenance and operating histories of the FWST supply valves that show no instances of failures that would have prevented the valves from performing their design function. The proposed change will reduce the number of challenges to the AFW system by reducing the opportunity for contamination from the raw water system.

3.3 Evaluation

The licensee proposed to change the frequency interval for SR 3.7.5.6 from 92 days to 24 months. The SR 3.7.5.6 test is a full-stroke cycling of valves in the FWST to AFW pumps' suction flow path.

The purpose of SR 3.7.5.6 is to ensure that the FWST is capable of being aligned to the AFW pumps' suction. This will assure that this additional supply of water is available from the seismically-qualified FWST should it be needed for a natural circulation cooldown. The licensee performed a detailed review of the test and maintenance history for the FWST supply manual valves and found no instances of any valve being found in an inoperable condition or incapable of being repositioned. In addition, none of the maintenance corrective actions for the valves found any problem that would have prevented the valves from being opened in an emergency to provide FWST water to the AFW system. There was no evidence of any time-related degradation mechanism that would prevent the valves from performing their design function in the future. Based on the operating experience, maintenance, and testing results, the Nuclear Regulatory Commission (NRC) staff has concluded that the change in the surveillance frequency interval from 92 days to 24 months is acceptable because there is minimal risk of the valves being unable to perform their design function during the extended interval. Additionally, the change in the frequency interval provides a benefit of reducing potential challenges to the AFW system from contamination associated with more frequent cycling of valves in a header shared with the raw water system.

The licensee states that the DCPP, IST program for pumps and valves was developed in accordance with the 2001 Edition through 2003 Addenda of the ASME Code for Operation and Maintenance of Nuclear Power Plants (ASME OM Code). The licensee proposes to apply the requirements of ISTC-3540 to the manual valves in the FWST supply to the AFW flow path, subject to the limitations set forth in 10 CFR 50.55a(b)(3)(vi). Hence, the proposed 24-month test frequency for cycling manual valves in the FWST supply flow path is consistent with the requirements of DCPP's approved pump and valve IST program and the ASME OM Code, including limitations of 10 CFR 50.55a(b)(3)(vi).

The NRC staff has determined that the proposed change is acceptable because: (1) the extended frequency interval does not significantly increase the risk of the subject valves not being operationally ready to perform their design function; and (2) the proposed frequency interval is consistent with ASME OM Code requirements, with related 10 CFR 50.55a(b)(3)(vi) limitations and the licensee's IST program.

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

The 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 (70 FR 59086; published October 11, 2005). 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.

Principal Contributor: J. McHale

Date: May 17, 2006

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