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

February 21, 1990

Docket Nos. 50-275
and 50-323

Posted
Amdt. 49 to DPR-80

Mr. J. D. Shiffer, Vice President
Nuclear Power Generation
c/o Nuclear Power Generation, Licensing
Pacific Gas and Electric Company
77 Beale Street, Room 1451
San Francisco, California 94106

Dear Mr. Shiffer:

SUBJECT: ISSUANCE OF AMENDMENTS

The Commission has issued the enclosed Amendment No. 49 to Facility Operating License No. DPR-80 and Amendment No. 48 to Facility Operating License No. DPR-82 for the Diablo Canyon Power Plant (DCPP), Units 1 and 2, respectively. The amendments change the Diablo Canyon combined Technical Specifications (TS) in response to your application for license amendments dated February 20, 1990. The amendments revise the TS to allow operation with one of the three pressurizer safety valves inoperable and disabled such that it cannot open. The revision is only applicable to Unit 2 safety valve 8010B, and is effective on a one-time basis, until Unit 2 is shut down for the next refueling outage. This outage is currently scheduled to begin on March 4, 1990, but in no event later than March 11, 1990. Following the outage, the amended TS require that three pressurizer safety valves be operable, as was the case prior to the amendments.

A copy of the related Safety Evaluation is enclosed. Notice of Opportunity for Hearing will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

Harry Rood

Harry Rood, Senior Project Manager
Project Directorate V
Division of Reactor Projects - III,
IV, V and Special Projects Office of
Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 49 to DPR-80
2. Amendment No. 48 to DPR-82
3. Safety Evaluation

cc w/enclosures:
See next page

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

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-275

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 49
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 February 20, 1990 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 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. 49, 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 becomes effective at the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John Hannon, Acting Assistant
Director for Region V Reactors
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 21, 1990

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

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON NUCLEAR POWER PLANT, UNIT 2

DOCKET NO. 50-323

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 48
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 February 20, 1990 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 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. 48, 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 becomes effective at the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John N. Hannon

John Hannon, Acting Assistant
Director for Region V Reactors
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 21, 1990

ATTACHMENT TO LICENSE AMENDMENT NOS. 49 AND 48

FACILITY OPERATING LICENSE NOS. DPR-80 and DPR-82

DOCKET NOS. 50-275 AND 50-323

Replace the following page of the Appendix "A" Technical Specifications with the attached page. The revised page is identified by amendment number and contains vertical lines indicating the areas of change. An overleaf page is also included.

Remove Page	Insert Page
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OPERATING

LIMITING CONDITION FOR OPERATION

3.4.2.2 All pressurizer Code safety valves shall be OPERABLE with a lift setting of 2485 psig ± 1%.*#

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one pressurizer Code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours.

b. The provisions of Specification 3.0.4 may be suspended for up to 18 hours per valve for entry into and during operations in MODE 3 for the purpose of setting the pressurizer Code safety valves under ambient (hot) conditions provided a preliminary cold setting was made prior to heatup.

SURVEILLANCE REQUIREMENTS

4.4.2.2 No additional requirements other than those required by Specification 4.0.5.

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

#For Unit 2 from February 21, 1990 until entry into Mode 4, but no later than March 11, 1990, only two pressurizer Code safety valves are required to be OPERABLE with a lift setting of 2485 psig ± 1% provided the third pressurizer Code safety valve is disabled and at least one pressurizer power-operated relief valve (PORV) is OPERABLE and its associated block valve is open. For this technical specification, the pressurizer PORV is OPERABLE if it is capable of opening automatically.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE NO. DPR-82

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2

DOCKET NO. 50-275 AND 50-323

1.0 INTRODUCTION

By letter dated February 20, 1990 Pacific Gas and Electric Company (PG&E or the licensee) requested amendments to the combined Technical Specifications (TS) appended to Facility Operating License Nos. DPR-80 and DPR-82 for the Diablo Canyon Power Plant (DCPP), Unit Nos. 1 and 2, respectively. The amendments change the TS to allow operation with one of the three pressurizer safety valves inoperable and disabled such that it cannot open. The revision is only applicable to Unit 2 safety valve 8010B, and is effective on a one-time basis, until Unit 2 is shut down for the next refueling outage. This outage is currently scheduled to begin on March 4, 1990, but in no event later than March 11, 1990. Following the outage, the amended TS require that three pressurizer safety valves be operable, as was the case prior to the amendments.

The amendment was requested on an emergency basis to avoid shutting down the unit solely to repair or replace the leaking safety valve. The emergency request was made on the basis that the valve leakage did not begin until February 20, 1990. As a result of previous safety valve leaks, the licensee had anticipated the possibility of such leakage and had requested a permanent TS change to permit disabling of a leaking pressurizer valve on either unit. This request, LAR 90-01, was submitted for staff review by PG&E letter dated January 25, 1990, and is currently under review by the staff. The issue has been discussed with the licensee in meetings dated July 20 and December 5, 1989, and January 30, 1990. The staff evaluation of the one time change in the Unit 2 TS is given below and is based on the licensee's letter of February 20, 1990.

2.0 EVALUATION

The NRC staff has evaluated the proposed change and finds it acceptable, based on the analyses and evaluations provided by the licensee. A discussion of the specific technical specification change made by these amendments and the basis for its acceptability is given below.

The pressurizer safety valves (PSVs) are required for overpressure protection. Each of the Diablo Canyon units has three safety valves with loop seals installed upstream of the valves. TS 3.4.2.2 requires all pressurizer code safety valves to be operable with a lift setting of 2485 psig +/- 1%. The TS change request to allow a disabled PSV was made because of the detection of leakage in one of the three PSVs which could result in the loss of loop seal and the PSV facing a steam environment. Previous valve test data indicated a downward shift of the lift setpoint by 4 to 8 percent when the test conditions changed from liquid to steam. This downward shift of lift setting increases the potential of the valve opening at operating pressure, and a failure to close will result in a small break loss of coolant accident. Therefore, the licensee proposed to disable the leaking valve to prevent inadvertent valve actuation and reduce the likelihood of a possible small break LOCA.

The licensee has previously requested the same amendment in a letter of January 25, 1990, and a subsequent meeting with the NRC staff on January 30, 1990. In support of this license amendment, Westinghouse, at the licensee's request, had performed an evaluation to determine the impact on the Diablo Canyon FSAR Update Chapter 15 accident analyses. For the ANS Condition II event, the limiting overpressurization transient was determined to be a loss of external load or turbine trip. This event was analyzed assuming a high pressurizer pressure trip and only two PSVs operable. For the ANS Condition IV event, a single reactor coolant pump locked rotor was determined to be the limiting overpressurization accident. The event was analyzed assuming only 40 percent of the full steam relief of the PSV relief capacity. The licensee indicated that the analysis results showed the maximum reactor system pressure to be below the 110 percent design pressure limit (2750 psia) for both cases. Therefore, the licensee concluded that only two of the three PSV are required for overpressure protection.

However, the Westinghouse analysis methodology did not explicitly model the effect of time delay in the loop seal clearing. Rather, a pressure accumulation of three percent was used. The licensee indicated that the analysis performed in WCAP-10105, "Review of Pressurizer Safety Valve Performance as Observed in the EPRI Safety and Valve Test Program," explicitly analyzed the effect of loop seal clearing and concluded that there was enough margin in the Westinghouse overpressure analyses to envelop that effect. In January 30, 1990 meeting with the staff, PG&E presented a loss of load/turbine trip analysis result of 2745 psia analyzed using the RETRAN code and assuming a loop seal clearing time of 1.2 seconds and a delay of valve full open of 0.1 second. In a telecommunication among PG&E, Westinghouse and the NRC staff on February 21, 1990, the licensee indicated that the loop seal clearing is less than 1.2 seconds as shown in the test result of WCAP-10105. Westinghouse indicated that their analysis assuming a 3 percent accumulation but without loop seal clearing time delay showed the

maximum pressurizer pressures of 2574 and 2694 psia for the turbine trip and locked rotor cases, respectively. For a turbine trip, the pressure ramp rate is approximately 70 psi/sec as shown in WCAP-10105. Therefore, even with a 1.2 seconds time delay of the loop seal clearing considered, the maximum primary pressure would be 2658 psia (an increase of 84 psi), which is still below the limiting pressure of 2750 psia. For the locked rotor case, the analysis was performed with 40 percent of the full steam relief capacity for three PSVs, which is equivalent to assuming 1.2 PSVs operable. Therefore, there is sufficient margin to account for the neglecting of the effect of loop seal clearing time delay. We therefore conclude that there is reasonable assurance that the 110 percent design pressure limit will be met with only two PSVs.

The proposed TS also requires that one PORV be operable in the automatic mode with its block valve open. This additional steam relief capacity was not considered in the safety analysis and therefore provides conservatism with regard to the overpressure protection. Therefore, the staff finds it acceptable to allow operation of Unit 2 until entry into Mode 4, but no later than March 11, 1990 with the proposed TS change.

In summary, the staff has reviewed the emergency change to the Diablo Canyon TS to allow operation of Unit 2 with only two operable PSVs and one operable PORV until entry into Mode 4 but no later than March 11, 1990, and has found it acceptable.

3.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission has provided standards for determining whether a no significant hazards consideration exists as stated in 10 CFR 50.92(c). A proposed amendment to an operating license involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment will not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

These amendments have been evaluated against the significant hazards criteria of 10 CFR 50.92 and against the Commission guidance concerning application of this standard. Based on the evaluation given below, the NRC staff has concluded that these amendments do not involve a significant hazards consideration. The staff's evaluation is as follows:

a. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

The pressurizer safety valves are designed to mitigate overpressurization transients in the Reactor Coolant System (RCS). A safety evaluation for plant operation with two of three pressurizer safety valves operable (one pressurizer valve inoperable and disabled) has been performed by the licensee. The results show the RCS overpressure limits of the two limiting accidents previously analyzed, Loss of External Load and/or Turbine Trip and Reactor Coolant Pump Locked rotor, are not exceeded for the case of operation with two pressurizer safety valves. The change reduces the potential for RCS depressurization resulting from spurious leaking safety valve actuation.

On this basis, the staff finds that the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

b. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

The change does not affect the method by which any safety-related system performs its function. The two safety valves will operate in the same manner and provide the same characteristic valve response as prior to the proposed change.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

c. Does the change involve a significant reduction in a margin of safety?

The licensee's safety evaluation for operation with one safety valve inoperable and disabled demonstrated that the RCS overpressure limits of the two limiting accidents previously analyzed, Loss of External Load and/or Turbine Trip and Reactor Coolant Pump Locked Rotor, are not exceeded for plant operation with two pressurizer safety valves. In addition, the requirement for one operable PORV in automatic mode with its associated block valve open as a condition for operation with safety valve 8010B disabled provides additional pressure relieving capability. This provides additional conservatism since the PORV relief capacity is not included in the accident analysis evaluation.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, the staff finds that the amendments do not involve a significant hazards consideration.

4.0 FINDING ON EXISTENCE OF EMERGENCY SITUATION

Leakage of safety valve 8010B was first observed on February 20, 1990. Disabling the leaking valve reduces the likelihood of unexpected transients and challenges to the Engineered Safety Features that could be associated with inadvertent opening of the valve. Past experience at Diablo Canyon has indicated that continued operation without disabling the valve is likely to result in increasing leakage, a loss of the valve loop seal, and a shift in the valve setpoint in excess of the TS requirements. Since the loss of loop seal lowers the setpoint, bringing it closer to the operating pressure, it increases the likelihood of the valve opening. Without the requested relief, the licensee will probably be required to shut the unit down prior to the scheduled outage.

In anticipation of possible safety valve leakage, the licensee requested, on January 25, 1990, a TS change which would allow the plant to operate with a disabled safety valve until the next outage of sufficient length to repair the valve. This request is under review by the staff. However, the January 25 request asked that the proposed change be given a timely review, but at that time there was not an immediate safety concern, since none of the safety valves had shown any indications of leakage. This situation changed on February 20, when leakage on the order of 0.2 to 0.3 gpm was observed from valve 8010B.

The staff has reviewed the circumstances associated with the licensee's request and has concluded that the licensee has provided sufficient basis for finding that the situation did not warrant emergency action prior to February 20, 1990, and that the situation after February 20, 1990 does warrant emergency action. Therefore, in accordance with 10 CFR 50.91(a)(5), a valid emergency existed prior to the issuance of these amendments.

5.0 CONTACT WITH STATE OFFICIAL

The California State Department of Health Services was advised on February 21, 1990 of the proposed issuance of these amendments. No comments were received.

6.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes to a requirement with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. At Diablo Canyon, the restricted area coincides with the site boundary. 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 staff has made a determination that these amendments do not involve a significant hazards consideration. Accordingly, these 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 these amendments.

7.0 CONCLUSION

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and (3) the issuance of these amendments will not be inimical to the common defense and security or the health and safety of the public. Therefore, we conclude that the proposed change is acceptable.

Principal Contributors: Y. Hsii
Harry Rood

Dated: February 21, 1990