April 14, 1995

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 94106

Dear Mr. Rueger:

SUBJECT: ISSUANCE OF AMENDMENTS FOR DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 1 (TAC NO. M90262) AND UNIT NO. 2 (TAC NO. M90263)

The Commission has issued the enclosed Amendment No. 101 to Facility Operating License No. DPR-80 and Amendment No.100 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 August 17, 1994.

These amendments change the allowed outage time of the refueling water storage tank (RWST) for adjustment of boron concentration from one hour to eight hours. The application also requested deletion of the minimum RWST solution temperature which the staff has denied. This was discussed with your staff. A copy of the Notice of Denial which has been filed with the Office of the Federal Register for publication is enclosed for your information. The Bases of the TS, as submitted with your application, need to be revised to reflect the denial, so that the Bases include the surveillance requirement which the staff has determined should not be deleted.

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

Sincerely,

Original Signed By

Melanie A. Miller, Senior Project Manager Project Directorate IV-2 Division of Reactor Projects III/IV Office of Nuclear Reactor Regulation

DICTDIDUTION

Docket Nos. 50-275 and 50-323

PDR

9504240199 950414

PDR ADDCK 05000275

Enclosures: 1. Amendment No. 101to DPR-80 2. Amendment No. 100to DPR-82 3. Safety Evaluation

4. Notice

cc w/encls: See next page

DISTRIBUTION	
Docket File	PUBLIC
MAMiller	EPeyton
KPerkins, WCFO	GHill (4), T5C3
OPA, 02G5	OC/LFDCB, T9E10
EAdensam	PDIV-2 Reading
TQuay	OGC, 015B18
CGrimes, 011E22	ACRS (4), TWFN
Region IV	RIV, WCFO (4)
LHurley, RIV	

DOCUMENT	NAME:	DC90262.AMD	*See	Previous	Sneet

OFC	PDIV-2/LA	PDIV-2/PM	NRR:SRXB*	OGC *
NAME	EPeyton	MMillier ye	BJones	CWoodhead
DATE	3# 1495	A/4/95	3/15/95	4 3×/ 5 /95
		OFFICIAL	RECORD COPY	

206635

oodhead /95 NRC FILE CENTER COP Mr. Gregory M. Rueger Pacific Gas and Electric Company

cc:

1

NRC Resident Inspector Diablo Canyon Nuclear Power Plant c/o U.S. Nuclear Regulatory Commission P. O. Box 369 Avila Beach, California 93424

Dr. Richard Ferguson, Energy Chair Sierra Club California 6715 Rocky Canyon Creston, California 93432

Ms. Nancy Culver San Luis Obispo Mothers for Peace P. O. Box 164 Pismo Beach, California 93448

Ms. Jacquelyn C. Wheeler P. O. Box 164 Pismo Beach, California 93448

Managing Editor <u>The County Telegram Tribune</u> 1321 Johnson Avenue P. O. Box 112 San Luis Obispo, California 93406

Chairman San Luis Obispo County Board of Supervisors Room 370 County Government Center San Luis Obispo, California 93408

Mr. Truman Burns Mr. Robert Kinosian California Public Utilities Commission 505 Van Ness, Room 4102 San Francisco, California 94102 Diablo Canyon

Mr. Steve Hsu Radiologic Health Branch State Department of Health Services Post Office Box 942732 Sacramento, California 94234

ration<u>e</u> tara

Regional Administrator, Region IV U.S. Nuclear Regulatory Commission Harris Tower & Pavillion 611 Ryan Plaza Drive, Suite 400 Arlington, Texas 76011-8064

Mr. Peter H. Kaufman Deputy Attorney General State of California 110 West A Street, Suite 700 San Diego, California 92101

Christopher J. Warner, Esq. Pacific Gas & Electric Company Post Office Box 7442 San Francisco, California 94120

Mr. Warren H. Fujimoto Vice President and Plant Manager Diablo Canyon Nuclear Power Plant P. O. Box 56 Avila Beach, California 93424

Diablo Canyon Independent Safety Committee ATTN: Robert R. Wellington, Esq. Legal Counsel 857 Cass Street, Suite D Monterey, California 93940



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. 101 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 August 17, 1994, 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:

9504240210 950414 PDR ADUCK 05000275 P PDR

(2) <u>Technical Specifications</u>

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 101, 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

1 Yh 000 Thelanie

Melanie A. Miller, Senior 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: April 14, 1995



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. 100 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 August 17, 1994, 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) <u>Technical Specifications</u>

č

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 100, 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

Thelamed. Wille

Melanie A. Miller, Senior 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: April 14, 1995

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 101 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 100 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. Overleaf pages are also included to maintain document completeness

REMOVE

INSERT

3/4 1-13 3/4 1-14 3/4 5-11 B 3/4 5-3	3/4 1-13 3/4 1-14 3/4 5-11 B 3/4 5-3
	B 3/4 5-4
	B 3/4 5-5
	B 3/4 5-6
	B 3/4 5-7
	B 3/4 5-8

REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.6 The following borated water source shall be OPERABLE:

- a. A Boric Acid Storage System with:
 - 1) A minimum contained borated water volume of 14,042 gallons,
 - 2) A boron concentration between 7,000 and 7,700 ppm, and
 - 3) A minimum solution temperature of 65°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the Boric Acid Storage System inoperable, restore the system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to at least 1% $\Delta k/k$ at 200°F; restore the Boric Acid Storage System to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

3/4 1-13

Unit 1 - Amendment No. 53,72,101 Unit 2 - Amendment No. 52,71,100 ł

REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS

- 4.1.2.6 The borated water source shall be demonstrated OPERABLE:
 - a. At least once per 7 days by:
 - 1) Verifying the boron concentration in the water,
 - 2) Verifying the contained borated water volume of the water source, and
 - 3) Verifying the Boric Acid Storage System solution temperature.

Unit 1 - Amendment No. 101 Unit 2 - Amendment No. 100 5

ł

3/4.5.5 REFUELING WATER STORAGE TANK

LIMITING CONDITION FOR OPERATION

3.5.5 The Refueling Water Storage Tank (RWST) shall be OPERABLE with:

- a. A minimum contained borated water volume of 400,000 gallons,
- b. A boron concentration of between 2300 and 2500 ppm, and
- c. A minimum solution temperature of 35°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With the RWST inoperable due to boron concentration not within limits, restore the tank to OPERABLE status 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 the RWST inoperable for reasons other than boron concentration not within limits, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.5.5 The RWST shall be demonstrated OPERABLE:

- a. At least once per 7 days by:
 - 1) Verifying the contained borated water volume in the tank, and
 - 2) Verifying the boron concentration of the water.
- b. At least once per 24 hours by verifying the RWST temperature when the outside ambient air temperature is less than 35°F.

DIABLO CANYON - UNITS 1 & 2

3/4 5-11

Unit 1 - Amendment No. 53,101Unit 2 - Amendment No. 52,100

BASES

ECCS SUBSYSTEMS (Continued)

The maximum flow Surveillance Requirement ensures that the minimum injection line resistance assumptions are met. These assumptions are used to calculate maximum flows to the RCS for safety analyses which are limited by maximum ECCS flow to the RCS.

The Surveillance Requirement for the maximum difference between the minimum and maximum individual injection line flows ensures that the minimum individual injection line resistance assumed for the spilling line following a LOCA is met.

The maximum total pump flow Surveillance Requirements ensure the pump runout limits of 560 gpm for the centrifugal charging pumps and 675 gpm for the safety injection pumps are met.

The safety analyses are performed assuming the miniflow recirculation lines for the ECCS subsystems associated with the centrifugal charging and safety injection pumps are open. The flow balancing test is, therefore, performed with these miniflow recirculation lines open.

Some of the flow from the centrifugal charging pumps will go to the RCP seals during ECCS operation. Therefore, the flow balance test is performed with a simulated flow from the centrifugal charging pumps to the RCP seals. The simulated flow rate is consistent with the actual RCP seal resistance and the resistance of the RCP seals assumed in the calculation of ECCS flows for the safety analyses.

BASES

3/4.5.5 REFUELING WATER STORAGE TANK

BACKGROUND

The Refueling Water Storage Tank (RWST) supplies borated water to the Chemical and Volume Control System (CVCS) during abnormal operating conditions, to the refueling cavity during refueling, and to the Emergency Core Cooling System (ECCS) and the Containment Spray (CS) System during accident conditions.

The RWST supplies both trains of the ECCS through one header and both trains of the CS System through a separate supply header during the injection phase of a loss of coolant accident (LOCA) recovery. A motor-operated isolation valve is provided in each header to isolate the RWST from the ECCS and from the CS System once the RWST is no longer supplying flow to these systems. At that time, additional motor-operated isolation valves can isolate each ECCS and CS subsystem from the RWST flow header.

Use of a single RWST to supply both trains of the ECCS and CS System is acceptable since the RWST is a passive component, and a passive failure is not assumed to occur coincidentally with a Design Basis Accident (DBA).

During normal plant operation in MODES 1, 2, and 3, the Safety Injection (SI), CS, and Residual Heat Removal (RHR) pumps are aligned to take suction from the RWST. The Centrifugal Charging Pumps (CCPs) operate during normal plant operation with their suction aligned to the Volume Control Tank (VCT). The switchover from normal operation to the injection phase of ECCS operation requires auto-transfer of the CCP suction from the CVCS VCT to the RWST.

When the suction for the RHR pumps is transferred to the containment sump, the RWST/RHR pump flow path must be isolated to prevent flow of containment sump water to the RWST, which could result in a release of contaminants to the atmosphere and the eventual loss of suction head for the RHR pumps due to loss of containment sump inventory.

The reactivity control systems are available to the operators to ensure that negative reactivity is available during each mode of plant operation. This system is not an accident mitigation system, but is used under operator control if needed to increase the Reactor Coolant System (RCS) boration concentration. The sources of borated water are the boric acid storage tanks in the CVS and the RWST. The RWST source of borated water is available as an alternate source to the boric acid storage tanks. The RWST water can be used in the event of abnormal conditions, including fire and seismic events, that may impair the function of the boric acid storage tank source of borated water of the CVCS. The boration subsystem provides the means to meet one of the functional requirements of the CVCS, i.e., to control the neutron absorber (boron) concentration in the RCS and to help maintain the shutdown margin (SDM).

DIABLO CANYON - UNITS 1 & 2	B 3/4 5-3	Unit 1 -	- Amendment	No.	14,101
		llnit 2 -	- Amendment	No	12 100

BASES

3/4.5.5 REFUELING WATER STORAGE TANK (Continued)

The Limiting Condition for Operation (LCO) ensures that:

- a. The RWST contains a sufficient volume at an acceptable boron concentration and temperature to support the ECCS and CS during the injection phase;
- b. Sufficient water volume exists in the containment sump to support continued operation of the ECCS and CS System pumps at the time of transfer to the recirculation mode of cooling;
- c. The reactor remains subcritical following a LOCA.

APPLICABLE SAFETY ANALYSES

Any event that results in SI initiation, including inadvertent ECCS actuation, results in delivery of RWST water to the RCS. However, the events for which the RWST parameters provide mitigation or are limiting are largebreak LOCA and steam line break. Feedwater line break and steam generator tube rupture (SGTR) also involve SI, but the RWST parameters are less significant to the analysis results. RWST boron concentration is an explicit assumption in the inadvertent ECCS actuation analysis, although it is typically a non-limiting event and the results are very insensitive to boron concentrations. The effect of these RWST parameters on large-break LOCA, main steam line break, feedwater line break and steam generator tube rupture are discussed below:

LOCA

Volume

Insufficient water in the RWST could result in insufficient borated water inventory in the containment sump when the transfer to the recirculation phase occurs. Improper boron concentrations could result in a reduction of SDM or excessive boric acid precipitation in the core following a LOCA, as well as excessive caustic stress corrosion of mechanical components and systems inside the containment. The deliverable volume limit is set by the LOCA and containment analyses. For the RWST, the deliverable volume is different from the total volume contained since, due to the design of the tank, more water can be contained than can be delivered. The contained water volume limit includes an allowance for water not usable because of tank discharge location or other physical characteristics.

Boration

During accident conditions, the RWST provides a source of borated water to the ECCS and CS System pumps. The minimum boron concentration limit ensures that the spray and the containment sump solutions, after mixing with

DTADLO CANVO	1 2TTALL A	ደ	2	B 3	/4	5-4	Ur	it	1	-	Amendment	NO.	101
DIADLU CANTO			L		<i>,</i> .	• •	Ur	it	2	-	Amendment	No.	100

BASES

3/4.5.5 REFUELING WATER STORAGE TANK (Continued)

the sodium hydroxide of the spray additive tank, will not exceed the maximum pH values. The maximum boron concentration limit ensures that the containment sump solution willnot be less than the minimum pH requirement. The design basis transients and applicable safety analyses concerning each of these systems are discussed in the Diablo Canyon FSAR Update. These analyses are used to assess changes to the RWST in order to evaluate their effects in relation to the acceptance limits in the analyses.

For a large-break LOCA analysis, the RWST minimum contained water volume limit of 400,000 gallons and the lower boron concentration limit of 2300 ppm are used to compute the post-LOCA sump boron concentration necessary to assure subcriticality. The large-break LOCA is the limiting case since the safety analysis assumes that all control rods are out of the core.

The upper limit on boron concentration of 2500 ppm is used to determine the maximum allowable time to initiate hot leg recirculation following a LOCA. The purpose of initiating hot leg recirculation is to avoid boron precipitation in the core following the accident.

The use of minimum containment backpressure in the LOCA analysis result in a conservative calculation of Peak Clad Temperature (PCT). The basis for this conclusion is the effect that the containment pressure has on the core reflood rate. A lower containment pressure has the effect of reducing the density of the steam exiting the break, which increases the differential pressure provided by the downcomer head (this phenomena is sometimes referred to as steam binding). Thus, a higher downcomer mixture level is required to maintain the same reflood rate as before. The additional time required to establish the downcomer head translates into a reduction in the reflood rate in the core. When the downcomer has completely filled, the equilibrium reflood rate for the low containment pressure case would be less than that calculated for a high containment pressure case. This reduction in reflood rate results in a reduction in heat transfer and ultimately an increase in the calculated PCT. Thus, the regulations require that a low containment pressure be calculated in the large-break LOCA analysis.

Steam Line and Feedwater Line Breaks

Volume

Volume is not an explicit assumption in other than LOCA events since the required volume for those events is less than that required by LOCA.

Boration

The minimum boron concentration is an explicit assumption in the main steam line break (MSLB) analysis to ensure the required shutdown capability. Since Diablo Canyon no longer uses the boron injection tank, the minimum boron

DIABLO CANYON - UNITS 1 & 2 B 3/4 5-5 Unit 1 - Amendment No.101 Unit 2 - Amendment No.100

<u>BASES</u>

3/4.5.5 REFUELING WATER STORAGE TANK (Continued)

concentration limit is an important assumption in ensuring the required shutdown capability. For the containment response following an MSLB, the lower limit on boron concentration is used to maximum the total energy release to containment.

Feedwater line break results in high temperature/high pressure in the RCS. There is very little RWST water injection due to the high pressure. Also, the analysis results are not affected by the negative reactivity provided by RWST water. Therefore, RWST boron concentration is not a consideration for the feedwater line break.

Steam Generator Tube Rupture

Volume

The RWST volume needed in response to a SGTR is not an explicit assumption since the required volume is less than that required by a LOCA.

Boration

The minimum boron concentration is an explicit assumption in the SGTR analysis to ensure the required shutdown capability. Borated RWST water will be injected into the RCS for a SGTR event. The insertion of the control rods and the negative reactivity provided by the injected RWST solution provides sufficient SDM during the initial recovery operations. One of the initial operator recovery actions for this event is to equalize the RCS pressure and the faulted steam generator pressure to minimize or stop the primary-tosecondary tube rupture flow and terminate safety injection. Further RCS boration will be initiated by the operator by manual makeup to the RCS.

LCO

The RWST operability ensures that an adequate supply of borated water is available to cool and depressurize the containment in the event of a DBA, to cool and cover the core in the event of a LOCA, to maintain the reactor subcritical following a DBA, to ensure adequate level in the containment sump to support continued ECCS and CS function in the recirculation mode following a LOCA, and to provide an alternate borated water source for reactivity control.

To be considered OPERABLE, the RWST must meet the water volume and boron concentration established in the TS.

BASES

3/4.5.5 REFUELING WATER STORAGE TANK (Continued)

APPLICABILITY

In MODES 1, 2, 3, and 4, RWST OPERABILITY requirements are dictated by ECCS and CS System OPERABILITY requirements. Since the ECCS and CS System must be OPERABLE in MODES 1, 2, 3, and 4, the RWST must also be OPERABLE to support their operation. In MODES 5 and 6, RWST OPERABILITY requirements are dictated by reactivity control requirements in TS 3/4.1.2.5, "Borated Water Sources - Shutdown."

ACTIONS

With RWST boron concentration not within limits, the boron concentration must be returned to within limits within 8 hours. Under these conditions, the ECCS and the CS System are not fully qualified to perform their design function. The 8-hour limit to restore boron concentration to within limits was developed considering the time required to change the boron concentration and the fact that the contents of the tank are still available for injection.

With the RWST inoperable for reasons other than boron concentration, it must be restored to OPERABLE status within 1 hour. In this condition, sufficient water is not available in the RWST to assure core recovery and adequate sump volume for recirculation. Therefore, prompt action must be taken to restore the tank to OPERABLE status or to place the plant in a MODE in which the requirements for the RWST are less restrictive.

If the RWST cannot be returned to OPERABLE status within the associated Action Time, the plant must be brought to a MODE in which the LCO for the RWST is less restrictive. To achieve this status, the plant must be brought to at least Hot Standby (Mode 3) within 6 hours and to Cold Shutdown (Mode 5) within the following 30 hours. Based on operating experience, the allowed Action Times are reasonable to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

Surveillance of the RWST ensures that an adequate supply of borated water is available to cool and depressurize the containment in the event of a DBA, to cool and cover the core in the event of a LOCA, to maintain the reactor subcritical following a DBA, to ensure adequate borated water level in the containment sump to support RHR pump operation in the recirculation mode, and to provide an alternate borated water source for reactivity control.

To be considered OPERABLE, the RWST must meet the water volume and boron concentration established in the surveillance requirements.

DIARIO CANVON - UNITS 1 &	2 B 3/	4 5-7	Unit	1	-	Amendment	NO.	101
DIADLO CANTON - UNITO I C			Unit	2	-	Amendment	No.	100

BASES

3/4.5.5 REFUELING WATER STORAGE TANK (Continued)

Surveillance Requirement 4.5.5.a.1

The RWST water volume should be verified every 7 days to be above the required minimum level to ensure that a sufficient initial supply is available for injection and to provide a sufficient containment sump inventory to support continued RHR System pump operation on recirculation. Since the RWST volume is normally stable and is protected by an alarm, a 7-day frequency is appropriate and has been shown to be acceptable through operating experience.

Surveillance Requirement 4.5.5.a.2

The boron concentration of the RWST solution should be verified every 7 days to be within the required limits. Meeting this surveillance ensures that the reactor will remain subcritical following a LOCA. Further, it assures that the resulting sump pH will be maintained within an acceptable range so that boron precipitation in the core will not occur and the effect of chloride and caustic stress corrosion on mechanical systems and components will be minimized. Since the RWST volume is normally stable, a 7-day sampling frequency to verify boron concentration is appropriate and has been shown to be acceptable through operating experience.

Unit 1 - Amendment No.101 Unit 2 - Amendment No.100 · . . .



UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 101 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 100 TO FACILITY OPERATING LICENSE NO. DPR-82

PACIFIC GAS AND ELECTRIC COMPANY

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

DOCKET NOS. 50-275 AND 50-323

1.0 INTRODUCTION

By letter of August 17, 1994, Pacific Gas and Electric Company (or the licensee) submitted a request for changes to the Technical Specifications (TS) for Diablo Canyon, Units 1 and 2. The proposed amendments increase the allowed outage time of the refueling water storage tank (RWST) for adjustment of boron concentration from one to eight hours. The licensee's application also requested deletion of the minimum RWST solution temperature which the staff has denied.

2.0 EVALUATION

The RWST contains at least 400,000 gallons of borated water at a concentration between 2300 and 2500 ppm at a minimum temperature of 35 degrees F. The RWST supplies borated water to both trains of the emergency core cooling system (ECCS) and the containment spray system during an accident. The safety injection, containment spray, and residual heat removal pumps are normally aligned to take suction from the RWST. The centrifugal charging pumps are normally aligned to the chemical and volume control system volume control tank and are automatically switched to take suction from the RWST at the injection phase of ECCS operation. The RWST is also a source of borated water for reactivity control during abnormal operating conditions and to the refueling cavity during refueling.

The RWST only supplies borated water upon ECCS actuation or when called upon during abnormal operating conditions or refueling. As such, its boron concentration is not affected by changing plant conditions or process variations. Recirculation through the tank may occur for pump testing or operation of the purification system, but the borated water is returned to the RWST with its boron concentration unchanged. Boron concentration can be changed through dilution with water of less boron concentration than that in the tank. However, the administrative controls for RWST makeup make inadvertent or incorrect makeup unlikely. Boron concentration changes could affect several accident analyses: largeand small-break loss-of-coolant accidents, inadvertent ECCS actuation, main steam line break, feedwater line break, and steam generator tube rupture. The licensee stated that the impact of small changes in the boron concentration on the analyses for each of these accidents is not significant and the small changes to the maximum limit on boron concentration would not have a significant effect on pH or on the maximum allowable time to switch to hot leg recirculation.

The change to an eight-hour allowed outage time of the RWST due to boron concentration may have positive effects on plant safety by reducing the probability of unnecessary plant transients and shutdowns. The additional time provides a better opportunity to determine the cause of any boron concentration problem, identify and institute appropriate corrective actions, and conduct any needed post-maintenance verification. Additionally, this change is consistent with NUREG-1431, "Standard Technical Specifications, Westinghouse Plants."

Any boron concentration changes which do occur are likely to be small and are not expected to increase significantly in the additional seven hours of allowed outage time. Additionally, the longer allowed outage time may enhance safety. The staff has reviewed the licensee's submittal and finds its assessment reasonable to support the increase of the allowed outage time of the RWST for adjustment of boron concentration from one to eight hours.

The TS, based on accident analyses assumptions, require that the temperature of the RWST water be maintained at least at 35 degrees F. The licensee maintains that the temperature of the RWST water has never dropped below 47 degrees F since 1969 based on an extrapolation of site temperature data to what the temperature of water in the RWST would have been. This historical assessment does not preclude the possibility of a future period of cold weather that may adversely affect the temperature of the water in the RWST. Given the importance of the availability of the RWST, the staff has denied the licensee's request to remove the minimum temperature requirements and the associated action statement from the TS.

The staff, however, has agreed that the requirements of TS 3/4.1.2.6 are duplicative of the requirements contained in TS 3/4.5.5 in that they both identify the same RWST limiting conditions for operation and action statement. Therefore, the requirements of TS 3/4.1.2.6 as they apply to the RWST have been deleted as requested by the licensee with no adverse safety impact and with an increase in clarity of the TS.

3.0 <u>STATE CONSULTATION</u>

ź

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 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 (59 FR 51621). 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: M. A. Miller

Date: April 14, 1995

7590-01

÷: -

UNITED STATES NUCLEAR REGULATORY COMMISSION <u>PACIFIC GAS AND ELECTRIC COMPANY</u> <u>DOCKET NOS. 50-275 AND 50-323</u>

NOTICE OF PARTIAL DENIAL OF AMENDMENTS TO FACILITY OPERATING LICENSES AND OPPORTUNITY FOR HEARING

The U.S. Nuclear Regulatory Commission (the Commission) has denied a portion of the request by Pacific Gas and Electric Company (the licensee) for amendments to Facility Operating License Nos. DPR-80 and DPR-82 issued to the licensee for operation of the Diablo Canyon Nuclear Power Plant, Unit Nos. 1 and 2, located in San Luis Obispo County, California. Notice of Consideration of Issuance of these amendments was published in the FEDERAL REGISTER on October 12, 1994 (59 FR 51621).

The purpose of this portion of the license amendment request was to eliminate the minimum refueling water storage tank solution temperature from Technical Specifications (TS) Sections 3/4.1.2.5 and 3/4.5.5.

The NRC staff has concluded that the licensee's request cannot be granted. The licensee was notified of the Commission's denial of the proposed change by a letter dated April 14, 1995

By May 22, 1995, the licensee may demand a hearing with respect to the demial described above. Any person whose interest may be affected by this proceeding may file a written petition for leave to intervene.

A request for hearing or petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Services Branch, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, D.C., by the above date. A copy of any petitions should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and to Christopher J. Warner, Esq., Pacific Gas and Electric Company, P.O. Box 7442, San Fransciso, California 94120, attorney for the licensee.

For further details with respect to this action, see (1) the application for amendment dated August 17, 1994, and (2) the Commission's letter to the licensee dated April 14, 1995.

These documents are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, D.C., and at the local pubic document room located at the California Polytechnic State University, Robert E. Kennedy Library, Government Documents and Maps Department, San Luis Obispo, California 93407.

Dated at Rockville, Maryland, this 14th day of April 1995.

FOR THE NUCLEAR REGULATORY COMMISSION

William H. Bateman, Director Project Directorate IV-2 Division of Reactor Projects III/IV Office of Nuclear Reactor Regulation

- 2 -