

March 26, 1999

Mr. Gregory M. Rueger
Senior Vice President and General Manager
Pacific Gas and Electric Company
Diablo Canyon Nuclear Power Plant
P. O. Box 3
Avila Beach, California 93424

SUBJECT: ISSUANCE OF AMENDMENTS FOR DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 1 (TAC NO. M99463) AND UNIT NO. 2 (TAC NO. M99464)

Dear Mr. Rueger:

The Commission has issued the enclosed Amendment No. 130 to Facility Operating License No. DPR-80 and Amendment No. 128 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 July 30, 1997, as supplemented by letter dated December 23, 1998.

These amendments revise the combined Technical Specifications (TS) for the Diablo Canyon Power Plant (DCPP) Unit Nos. 1 and 2 by adding a Limiting Condition for Operation, trip setpoints, and surveillance requirements for a residual heat removal pump trip on refueling water storage tank level-low.

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 Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-275
and 50-323

Enclosures: 1. Amendment No. 130 to DPR-80
2. Amendment No. 128 to DPR-82
3. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

~~Docket~~ OGC
PDIV-2 Reading ACRS
PUBLIC GHill (2)
JZwolinski/SBlack CSN (SE only)
WBateman JMauck
SBloom JWermiel
EPeyton
WBeckner
KBrockman, RIV
LSmith, RIV
JKilcrease, RIV
LHurley, RIV

310030

DF 9/1

Document Name: DC99464A.WPD

OFC	PDIV-2	PDIV-2	OGC <i>alo</i>
NAME	<i>S</i> Bloom	E <i>esp</i> Peyton	<i>AP</i> H
DATE	3/11/99	3/10/99	3/15/99

OFFICIAL RECORD COPY

9903310318 990326
PDR ADOCK 05000275
P PDR

cc w/encls:

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

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

Dr. Richard Ferguson, Energy Chair
Sierra Club California
1100 11th Street, Suite 311
Sacramento, California 95814

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

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

Mr. David H. Oatley, Vice President
Diablo Canyon Operations and
Plant Manager
Diablo Canyon Nuclear Power Plant
P.O. Box 3
Avila Beach, California 93424

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

Telegram-Tribune
ATTN: Managing Editor
1321 Johnson Avenue
P.O. Box 112
San Luis Obispo, California 93406

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

Mr. Steve Hsu
Radiologic Health Branch
State Department of Health Services
Post Office Box 942732
Sacramento, California 94232

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. 130
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 30, 1997, as supplemented by letter dated December 23, 1998, 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:

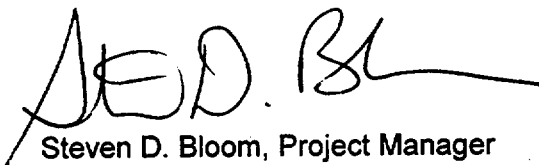
9903310324 990326
PDR ADDCK 05000275
P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 130 , 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "S.D. Bloom", with a long horizontal flourish extending to the right.

Steven D. Bloom, Project Manager
Project Directorate IV-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: March 26, 1999



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. 128
License No. DPR-82

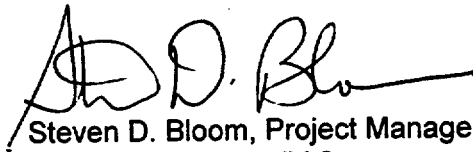
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Pacific Gas and Electric Company (the licensee) dated July 30, 1997, as supplemented by letter dated December 23, 1998, complies with the standards and requirements of the Atomic Energy Act of 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. 128, 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven D. Bloom, Project Manager
Project Directorate IV-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: March 26, 1999

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 130 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 128 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

INSERT

3/4 3-20

3/4 3-20

3/4 3-22

3/4 3-22

3/4 3-27

3/4 3-27

3/4 3-35

3/4 3-35

B 3/4 3-1b

B 3/4 3-1b

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

DIABLO CANYON -

UNITS 1 & 2

3/4 3-19

Unit 1 - Amendment 61, 84, 92, 103
Unit 2 - Amendment 60, 83, 91, 102

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
6. Auxiliary Feedwater					
a. Manual Initiation	1 manual switch/pump	1 manual switch/pump	1 manual switch/pump	1, 2, 3	24
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3	22
c. Stm. Gen. Water Level-Low-Low					
1) Start Motor-Driven Pumps					
a. Steam Generator Water Level-Low-Low	3/S.G.	2/S.G. in one S.G.	2/S.G. in each S.G.	1, 2, 3###	20
b. RCS loop ΔT	4 (1/loop)	N.A.	N.A.	1, 2	29
2) Start Turbine-Driven Pump					
a. Steam Generator Water Level-Low-Low	3/S.G.	2/S.G. in any 2 S.G.	2/S.G. in each S.G.	1, 2, 3###	20
b. RCS loop ΔT	4 (1/loop)	N.A.	N.A.	1, 2	29
d. Undervoltage-RCP Bus Start Turbine-Driven Pump	2/bus	1/bus on both busses	1/bus	1	35
e. Safety Injection Start Motor-Driven Pumps	See Item 1. above for all Safety Injection initiating functions and requirements.				

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
7. Loss of Power (4.16 kV Emergency Bus Undervoltage)					
a. First Level				1, 2, 3, 4	
1) Diesel Start	1/Bus	1/Bus	1/Bus		16
2) Initiation of Load Shed	2/Bus	2/Bus	2/Bus		15
b. Second Level				1, 2, 3, 4	
1) Undervoltage Relays	2/Bus	2/Bus	2/Bus		15
2) Timers to Start Diesel	1/Bus	1/Bus	1/Bus		16
3) Timers to Shed Load	1/Bus	1/Bus	1/Bus		16
8. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure, P-11	3	2	2	1, 2, 3	21
b. DELETED					
c. Reactor Trip, P-4	2	2	2	1, 2, 3	23
9. Residual Heat Removal Pump Trip on Refueling Water Storage Tank Level-Low	3	2	2	1, 2, 3, 4	36

DIABLO CANYON - UNITS 1 & 2

3/4 3-20

Unit 1 - Amendment 84, 127, 130
Unit 2 - Amendment 93, 125, 128

TABLE 3.3-3 (Continued)

TABLE NOTATIONS

#Trip function may be blocked in this MODE below the P-11 (Pressurizer Pressure Interlock) Setpoint.

##Trip function automatically blocked above P-11 (Pressurizer Pressure Interlock) Setpoint and is automatically blocked below P-11 when Safety Injection on Steam Line Pressure-Low is not blocked.

###For Mode 3, the Trip Time Delay associated with the Steam Generator Water Level-Low-Low channel must be less than or equal to 464.1 seconds.

ACTION STATEMENTS

- ACTION 14 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.
- ACTION 15 - With the number of OPERABLE Channels less than the Minimum Channels OPERABLE requirement, declare the affected Emergency Diesel Generator(s) inoperable and comply with the ACTION statements of Specification 3.8.1.1; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.
- ACTION 16 - With the number of OPERABLE Channels one less than the Total Number of Channels, declare the affected Emergency Diesel Generator(s) inoperable and comply with the ACTION statements of Specification 3.8.1.1; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.
- ACTION 17 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met. One additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.
- ACTION 18 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge supply and exhaust valves (RCV-11, 12, FCV 660, 661, 662, 663, 664) are maintained closed.
- ACTION 19 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- ACTION 20 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 6 hours, and
 - b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel or one additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.

TABLE 3.3-3 (Continued)

ACTION STATEMENTS (Continued)

- ACTION 21 - With less than the Minimum Number of Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.
- ACTION 22 - With the number of OPERABLE Channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.
- ACTION 23 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- ACTION 24 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated pump or valve inoperable and take the ACTION required by Specification 3.7.1.5 or 3.7.1.2 as applicable.
- ACTION 25 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT STANDBY within the next 6 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.
- ACTION 29 - With the number of OPERABLE channels less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided that within 6 hours, for the affected RCS Loop Delta-T channel(s), either:
- a. The Trip Time Delay threshold power level for zero seconds time delay is adjusted to 0% RTP, or
 - b. With the number of OPERABLE channels one less than the Total Number of Channels, the affected Steam Generator Water Level-Low-Low channels are placed in the tripped condition.
- ACTION 35 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the trip condition within 6 hours, and
 - b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.
- ACTION 36 - With the number of OPERABLE channels one less than the Total Number of Channels, within 6 hours place the inoperable channel in cut-out and restore the inoperable channel to OPERABLE status within 48 hours; or be in at least Hot Standby within the next 6 hours and be in Cold Shutdown within the next 30 hours.

TABLE 3.3-4 (Continued)
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
7. Loss of Power (4.16 kV Emergency Bus Undervoltage)		
a. First Level		
1) Diesel Start	≥ 0 volts with a ≤ 0.8 second time delay and ≥ 2583 volts with a ≤ 10 second time delay	≥ 0 volts with a ≤ 0.8 second time delay and ≥ 2583 volts with a ≤ 10 second time delay
2) Initiation of Load Shed	One relay ≥ 0 volts with a ≤ 4 second time delay and ≥ 2583 volts with a ≤ 25 second time delay with one relay ≥ 2870 volts, instantaneous	One relay ≥ 0 volts with a ≤ 4 second time delay and ≥ 2583 volts with a ≤ 25 second time delay with one relay ≥ 2870 volts, instantaneous
b. Second Level		
1) Diesel Start	≥ 3785 volts with a ≤ 10 second time delay	≥ 3785 volts with a ≤ 10 second time delay
2) Initiation of Load Shed	≥ 3785 volts with a ≤ 20 second time delay	≥ 3785 volts with a ≤ 20 second time delay
8. Engineered Safety Features Actuation System Interlocks		
a. Pressurizer Pressure, P-11	≤ 1915 psig	≤ 1917.5 psig
b. DELETED		
c. Reactor Trip, P-4	N.A.	N.A.
9. Residual Heat Removal Pump Trip on Refueling Water Storage Tank Level - Low	32.56%	≤ 33.68% and ≥ 31.44%

NOTE 1: Time constants utilized in the lead-lag compensator for Steam Pressure - Low are $\tau_1 = 50$ seconds and $\tau_2 = 5$ seconds.

NOTE 2: Steam Generator Water Level Low-Low Trip Time Delay

$$TD = B1(P)^3 + B2(P)^2 + B3(P) + B4$$

Where: P = RCS Loop ΔT Equivalent to Power (%RTP), $P \leq 50\%$ RTP

TD = Time delay for Steam Generator Water Level Low-Low (in seconds)

$$B1 = -0.007128$$

$$B2 = +0.8099$$

$$B3 = -31.40$$

$$B4 = +464.1$$

NOTE 3: Time constants utilized in the rate-lag compensator for Negative Steam Line Pressure Rate - High are $\tau_3 = 50$ seconds and $\tau_4 = 50$ seconds.

DIABLO CANYON - UNITS 1 & 2

3/4 3-27

Unit 1 - Amendment 37,72,84,86,92,103,122,130
 Unit 2 - Amendment 36,74,83,85,91,102,120,128

TABLE 3.3-5

ENGINEERED SAFETY FEATURES RESPONSE TIMES

<u>INITIATING SIGNAL AND FUNCTION</u>	<u>RESPONSE TIME IN SECONDS</u>
1. Manual Initiation	
a. Safety Injection (ECCS)	N.A.
1) Feedwater Isolation	N.A.
2) Reactor Trip	N.A.
3) Phase "A" Isolation	N.A.
4) Containment Ventilation Isolation	N.A.
5) Auxiliary Feedwater	N.A.
6) Component Cooling Water	N.A.
7) Containment Fan Cooler Units	N.A.
8) Auxiliary Saltwater Pumps	N.A.
b. Phase "B" Isolation	
1) Containment Spray (Coincident with SI Signal)	N.A.
2) Containment Ventilation Isolation	N.A.
c. Phase "A" Isolation	
1) Containment Ventilation Isolation	N.A.
d. Steam Line Isolation	N.A.
2. Containment Pressure-High	
a. Safety Injection (ECCS)	
1) Reactor Trip	M 27 ⁽⁷⁾ /25 ⁽⁴⁾
2) Feedwater Isolation	M 2
3) Phase "A" Isolation	M 63
4) Containment Ventilation Isolation	M 18 ⁽¹¹⁾ /28 ⁽³⁾
5) Auxiliary Feedwater	N.A.
6) Component Cooling Water	M 60 ⁽³⁾
7) Containment Fan Cooler Units	M 38 ⁽¹¹⁾ /48 ⁽³⁾
8) Auxiliary Saltwater Pumps	M 40 ⁽³⁾ M 48 ⁽¹¹⁾ /58 ⁽³⁾
3. Pressurizer Pressure-Low	
a. Safety Injection (ECCS)	
1) Reactor Trip	M 27 ⁽⁷⁾ /25 ⁽⁴⁾ /35 ⁽³⁾
2) Feedwater Isolation	M 2
3) Phase "A" Isolation	M 63
4) Containment Ventilation Isolation	M 18 ⁽¹¹⁾
5) Auxiliary Feedwater	N.A.
6) Component Cooling Water	M 60 ⁽³⁾
7) Containment Fan Cooler Units	M 48 ⁽³⁾ /38 ⁽¹¹⁾
8) Auxiliary Saltwater Pumps	M 40 ⁽³⁾ M 58 ⁽³⁾ /48 ⁽¹¹⁾

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALI- BRATION	CHANNEL OPERA- TIONAL TEST	TRIP ACTUATING DEVICE OPERA- TIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
6. Auxiliary Feedwater (Continued)								
d. Undervoltage - RCP	N.A.	R24	N.A.	R24	N.A.	N.A.	N.A.	1
e. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
7. Loss of Power								
a. 4.16 kV Emergency Bus Level 1	N.A.	R	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
b. 4.16 kV Emergency Bus Level 2	N.A.	R	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
8. Engineered Safety Feature Actuation System Interlocks								
a. Pressurizer Pressure, P-11	N.A.	R24	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
b. Deleted								
c. Reactor Trip, P-4	N.A.	N.A.	N.A.	R24	N.A.	N.A.	N.A.	1, 2, 3
9. Residual Heat Removal Pump Trip on Refueling Water Storage Tank Level -Low	S	R24	Q	N.A.	R24	N.A.	N.A.	1, 2, 3, 4

TABLE NOTATIONS

- (1) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (2) For the Containment Ventilation Exhaust Radiation-High monitor only, a CHANNEL FUNCTIONAL TEST shall be performed at least once every 31 days.
- (3) Trip function automatically blocked above P-11 (Pressurizer Pressure Interlock) setpoint and is automatically blocked below P-11 when Safety Injection on Steam Line Pressure-Low is not blocked.
- (4) Deleted.
- (5) For Mode 3, the Trip Time Delay associated with the Steam Generator Water Level-Low-Low channel must be less than or equal to 464.1 seconds.

DIABLO CANYON - UNITS 1 & 2
 3/4 3-35
 Unit 1 - Amendment 64, 84, 87, 103, 114, 115, 118, 122, 130
 Unit 2 - Amendment 60, 83, 86, 102, 112, 113, 116, 120, 128

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING FOR PLANT OPERATIONS

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels for plant operations shown in Table 3.3-6 shall be OPERABLE with their Alarm/Trip Setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

- a. With a radiation monitoring channel Alarm/Trip Setpoint for plant operations exceeding the value shown in Table 3.3-6, adjust the Setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels for plant operations inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel for plant operations shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST for the MODES and at the frequencies shown in Table 4.3-3.

INSTRUMENTATION

BASES

REACTOR PROTECTION SYSTEM and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

ESF response times specified in Table 3.3-5, which include sequential operation of the RWST and VCT valves (Table Notations 4 and 5), are based on values assumed in the non-LOCA safety analyses. These analyses take credit for injection of borated water from the RWST. Injection of borated water is assumed not to occur until the VCT charging pump suction isolation valves are closed following opening of the RWST charging pump suction isolation valves. When the sequential operation of the RWST and VCT valves is not included in the response times (Table Notation 7), the values specified are based on the LOCA analyses. The LOCA analyses takes credit for injection flow regardless of the source. Verification of the response times specified in Table 3.3-5 will assure that the assumptions used for the LOCA and non-LOCA analyses with respect to the operation of the VCT and RWST valves are valid.

For slave relays in the ESF actuation system circuit that are Potter & Brumfield type MDR relays, the SLAVE RELAY TEST is performed on a refueling frequency. The test frequency is based on relay reliability assessments presented in WCAP-13878, "Reliability Assessment of Potter and Brumfield MDR Series Relays," WCAP-13900, "Extension of Slave Relay Surveillance Test Intervals," and WCAP-14117, "Reliability Assessment of Potter and Brumfield MDR Series Relays." These reliability assessments are relay specific and apply only to Potter and Brumfield MDR series relays. Note that for normally energized applications, the relays may have to be replaced periodically in accordance with the guidance given in WCAP-13878 for MDR relays.

Undervoltage protection will generate a loss of power diesel generator start in the event a loss of voltage or degraded voltage condition occurs. The diesel generators provide a source of emergency power when offsite power is either unavailable or is insufficiently stable to allow safe unit operation. The first level undervoltage relays (FLURs) detect the loss of bus voltage (less than 69% bus voltage). The second level undervoltage relays (SLURS) provide a second level of undervoltage protection which protects all Class 1E loads from short or long term degradation in the offsite power system. The SLUR allowable value is the minimum steady state voltage needed on the 4160 volt vital bus to ensure adequate voltage is available for safety related equipment at the 4160 volt, 480 volt, and 120 volt levels.

The RWST low level trip of the RHR pumps, the only automatic action in the switchover to the containment recirculation sump, assures that continued cooling is provided by the ECCS to remove decay heat. After the RWST low level trip is received, operators manually switch the source of water for the ECCS pumps to the containment recirculation sump. Switchover from the RWST to the containment sump must occur before the RWST empties to prevent damage to the ECCS pumps and a loss of core cooling capability. For similar reasons, switchover must not occur before there is sufficient water in the containment sump to support RHR pump suction. Furthermore, early switchover must not occur to ensure that sufficient borated water is injected from the RWST. This ensures the reactor remains shut down in the recirculation mode.

The RWST low level trip of the RHR pumps is included in the RHR pump control system and is not a part of the solid state protection system. Each of the three channels is provided with a cut-out feature, which allows the channel to be bypassed. A channel may be placed in the cut-out mode for up to 48 hours to allow maintenance and testing. This places the system in a two-out-of-two trip logic.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 130 TO FACILITY OPERATING LICENSE NO. DPR-80
AND AMENDMENT NO. 128 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 letter dated July 30, 1997, as supplemented by letter dated December 23, 1998, the Pacific Gas and Electric Company proposed license amendments to change the Technical Specifications (TS) for Diablo Canyon, Units 1 and 2. The amendments will add a Limiting Condition for Operation (LCO), trip setpoints, and surveillance requirements for a residual heat removal (RHR) pump trip on refueling water storage tank (RWST) level-low. In conference calls on November 20, 1997, March 4, July 10, and November 20, 1998, and by letter dated December 23, 1998, the licensee provided additional information on the proposed TS changes.

The December 23, 1998, supplemental letter provided additional clarifying information, did not expand the scope of the application as originally noticed, and did not change the staff's proposed no significant hazards consideration determination published in the Federal Register on December 31, 1997 (62 FR 68312).

The current RWST water level instrumentation which provides accident monitoring per TS 3.3.3.6 does not automatically trip the RHR pumps on low RWST water level. In March 1997, in response to an NRC inquiry, the licensee determined that the existing RWST level instrumentation design was outside the design basis of the plant and a License Event Report, LER 97-005, was issued on April 14, 1997. The licensee resolved the deficiency by adding a new RWST level-low instrumentation channel and making provision to automatically trip the RHR pumps on low RWST level. The TS modifications will add the following items to TS 3/4.3.2, Engineered Safety Features Actuation System Instrumentation.

1. Limiting Condition for Operation: Table 3.3-3, Functional Unit 9, Residual Heat Removal Pump Trip on Refueling Water Storage Tank Level-Low.
2. Trip Setpoints: Table 3.3-4, Functional Unit 9, Residual Heat Removal Pump Trip on Refueling Water Storage Tank Level-Low.

9903310327 990326
PDR ADOCK 05000275
PDR

3. Surveillance Requirements: Table 4.3-2, Functional Unit 9, Residual Heat Removal Pump Trip on Refueling Water Storage Tank Level-low.

The modifications will also add two paragraphs to TS Bases 3/4.3.1 and 3/4.3.2, Reactor Protection System and Engineering Safety Features Actuation System Instrumentation, respectively.

2.0 BACKGROUND

The purpose of the RWST is to provide borated water to the suction of the emergency core cooling system (ECCS) pumps and to the containment spray (CS) pumps. Included in the ECCS pumps are two residual heat removal (RHR) pumps, two safety injection (SI) pumps, and two centrifugal charging pumps (CCPs). Section 50.36(c)(2)(ii) of Title 10 of the Code of Federal Regulations requires that a limiting condition for operation (LCO) be established for a component that is a part of the primary success path and that actuates to mitigate a design basis accident. Since the RWST low-level trip of RHR pumps is assumed in the design basis accident analyses to ensure there is a continuous supply of water for the ECCS pumps, the RWST low-level trip logic must be included in the TS. Therefore, the licensee is requesting that the RWST low-level trip function be added to TS 3/4.3.2.

3.0 EVALUATION

3.1 Switchover Analysis

The ECCS pumps begin to draw water from the RWST on receipt of a safety injection signal and the CS pumps will draw from the RWST on receipt of a containment high-high pressure signal. When two of the three RWST level channels sense a decrease in the water volume to 149,200 gallons, or 32.56 percent measured level, both RHR pumps trip on low level. The emergency operating procedures instruct the operator to realign manually the RHR pumps to the containment recirculation sump to begin recirculating water from the containment, while the CCPs, SI, and CS pumps continue to draw from the RWST. The CCPs and the SI are then realigned to take suction from the RHR discharge. The operator stops the CS pumps when the RWST level decreases to 4 percent.

An RWST low-level trip of the RHR pumps prompts the operator to initiate the manual switchover to the containment recirculation sump when there is still sufficient volume in the RWST to provide operators with adequate time to perform the switchover before the RWST empties. The level setpoint ensures that there is sufficient water transferred into the containment recirculation sump to support RHR pump suction. Also, there must be sufficient borated water injected from the RWST to ensure the reactor remains shutdown in the recirculation mode.

The licensee performed an analysis to determine the time required and available time to perform the changeover from the injection phase to the sump cold leg recirculation phase. The analysis included actual simulation of assumptions, the use of corrected plant procedures, and actual timing of the required operator actions to ensure that the manual switchover from RWST

supply to containment recirculation sump supply for ECCS pumps is within FSAR requirements. In addition, the licensee incorporated the appropriate associated training into continuous training through the Licensed Operator Training Program. The staff reviewed the analysis and found it acceptable.

3.2 LCO: Table 3.3-3, Functional Unit 9

This modification, in particular Note 36 to TS Table 3.3-3, describes the LCO for the RHR pump trip on RWST level-low. The proposed LCO requirements are in conformance with the guidance of NUREG-1431, Revision 1, "Standard Technical Specifications - Westinghouse Plants" for such functions and are, therefore, acceptable.

3.3 Trip Setpoints: Table 3.3-4, Functional Unit 9

This modification provides the trip setpoint and allowable values for RHR pump trip on RWST level-low. The licensee stated that the allowable value was established using methodology described in License Amendment Request 96-10, "Revision of Technical Specifications to Support Extended Fuel Cycles to 24 Months" which was approved by the staff by letter dated February 17, 1998. The licensee further stated that they have determined from their evaluation that the allowable value should have a tolerance of ± 1.12 percent over the trip setpoint to account for rack drift, measurement inaccuracies, and test equipment inaccuracies. The staff considers this tolerance conservative and the proposed trip setpoint and allowable values are, therefore, acceptable.

3.4 Surveillance Requirements: Table 4.3-2, Functional Unit 9

This TS modification describes the channel surveillance requirements for RHR pump trip on RWST level-low. The modification calls for a channel check once per shift, a channel calibration and actuation logic test during each refueling outage, and a channel operational test on a quarterly basis. These changes are in conformance with the guidance of NUREG-1431, Revision 1, for such instrumentation and are, therefore, 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.

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 a surveillance requirement. 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 (62 FR 68312). 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: S. Mazumdar
S. Brewer

Date: March 26, 1999