April 14, 1997

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

SUBJECT: ISSUANCE OF AMENDMENTS FOR DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 1 (TAC NO. M95060) AND UNIT NO. 2 (TAC NO. M95061)

Dear Mr. Rueger:

The Commission has issued the enclosed Amendment No. 118 to Facility Operating License No. DPR-80 and Amendment No. 116 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 February 14, 1996, as supplemented by letter dated February 24, 1997.

These amendments revise the combined Technical Specifications (TS) for the Diablo Canyon Power Plant (DCPP) Unit Nos. 1 and 2 to revise 30 TS and add two new TS surveillance requirements to support implementation of extended fuel cycles at DCPP Unit Nos. 1 and 2. The specific TS changes include those for 9 trip actuating device tests, 12 fluid system actuation tests, and 11 miscellaneous tests. Two of the fluid system actuation tests are new TS surveillance requirements. The TS changes also involve adding a new frequency notation, "R24, REFUELING INTERVAL," to Table 1.1 of the TS. Also, a revision that applies to all subsequent TS changes involves revising the Bases section of TS 4.0.2 to change the surveillance frequency from an 18-month surveillance interval to at least once each REFUELING INTERVAL.

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

Sincerely,

Original Signed By

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

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Docket Nos. 50-275
and 50-323

Enclosures:
1. Amendment No. 118 to DPR-80
2. Amendment No. 116 to DPR-82
3. Safety Evaluation

cc w/encls: See next page

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

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-275

DIABLO CANYON NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 118
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 February 14, 1996, as supplemented by letter dated February 24, 1997, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-80 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 118, 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 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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

Attachment: Changes to the Technical Specifications

Date of Issuance: April 14, 1997

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. 116
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 February 14, 1996, as supplemented by letter dated February 24, 1997, 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. 116 , 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 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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

Attachment: Changes to the Technical Specifications

Date of Issuance: April 14, 1997

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 118 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 116 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
1-8	1-8
3/4 1-19	3/4 1-19
3/4 1-20	3/4 1-20
3/4 3-10	3/4 3-10
3/4 3-11	3/4 3-11
3/4 3-12	3/4 3-12
3/4 3-32	3/4 3-32
3/4 3-33	3/4 3-33
3/4 3-34	3/4 3-34
3/4 3-35	3/4 3-35
3/4 4-9	3/4 4-9
3/4 4-20	3/4 4-20
3/4 5-5	3/4 5-5
3/4 5-6	3/4 5-6
3/4 6-10	3/4 6-10
3/4 6-12	3/4 6-12
3/4 6-14	3/4 6-14
3/4 6-15	3/4 6-15
3/4 6-18	3/4 6-18
3/4 7-5	3/4 7-5
3/4 7-9a	3/4 7-9a
3/4 7-11	3/4 7-11
3/4 7-12	3/4 7-12
B 3/4 0-2	B 3/4 0-2

TABLE 1.1

FREQUENCY NOTATION

NOTATION	FREQUENCY
S	At least once per 12 hours.
D	At least once per 24 hours.
W	At least once per 7 days.
M	At least once per 31 days.
Q	At least once per 92 days.
SA	At least once per 184 days.
R	At least once per 18 months.
R24, REFUELING INTERVAL	At least once per 24 months.
S/U	Prior to each reactor startup.
P	Completed prior to each release.
N.A.	Not applicable.

POSITION INDICATION SYSTEM - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.3.3 One digital rod position indicator (excluding demand position indication) shall be OPERABLE and capable of determining the control rod position within ± 12 steps for each shutdown or control rod not fully inserted.

APPLICABILITY: MODES 3*#, 4*# and 5*#.

ACTION:

With less than the above required position indicator(s) OPERABLE, immediately open the Reactor Trip System breakers.

SURVEILLANCE REQUIREMENTS

4.1.3.3 Each of the above required digital rod position indicator(s) shall be determined to be OPERABLE by verifying that the digital rod position indicators agree with the demand position indicators within 12 steps when exercised over the full range of rod travel at least once each REFUELING INTERVAL.

*With the Reactor Trip System breakers in the closed position.

#See Special Test Exceptions Specification 3.10.4.

ROD DROP TIME

LIMITING CONDITION FOR OPERATION

3.1.3.4 The individual full-length shutdown and control rod drop time from the fully withdrawn position shall be less than or equal to 2.7 seconds from beginning of decay of stationary gripper coil voltage to dashpot entry with:

a. T_{avg} greater than or equal to 541°F, and

b. All reactor coolant pumps operating.

APPLICABILITY: MODES 1 and 2.

ACTION:

With the drop time of any full-length rod determined to exceed the above limit, restore the rod drop time to within the above limit prior to proceeding to MODE 1 or 2.

SURVEILLANCE REQUIREMENTS

4.1.3.4 The rod drop time of full-length rods shall be demonstrated through measurement prior to reactor criticality:

a. For all rods following each removal of the reactor vessel head,

b. For specifically affected individual rods following any maintenance on or modification to the Control Rod Drive System which could affect the drop time of those specific rods, and

c. At least once each REFUELING INTERVAL.

TABLE 3.3-2 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION RESPONSE TIMES

FUNCTIONAL UNIT	RESPONSE TIME
17. Turbine Trip	
a. Low Fluid Oil Pressure	N.A.
b. Turbine Stop Valve	N.A.
18. Safety Injection Input from ESF	N.A.
19. Reactor Coolant Pump Breaker Position Trip	N.A.
20. Reactor Trip Breakers	N.A.
21. Automatic Trip and Interlock Logic	N.A.
22. Reactor Trip System Interlocks	N.A.
23. Seismic Trip	N.A.

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Manual Reactor Trip	N.A.	N.A.	N.A.	R24(14)	N.A.	1, 2, 3*,4*,5*
2. Power Range, Neutron Flux						
a. High Setpoint	S	D(2, 4), M(3, 4), Q(4, 6), R(4, 5)	Q	N.A.	N.A.	1, 2
b. Low Setpoint	S	R(4)	S/U(1)	N.A.	N.A.	1###, 2
3. Power Range, Neutron Flux, High Positive Rate	N.A.	R(4)	Q	N.A.	N.A.	1, 2
4. Power Range, Neutron Flux, High Negative Rate	N.A.	R(4)	Q	N.A.	N.A.	1, 2
5. Intermediate Range, Neutron Flux	S	R(4, 5)	S/U(1)	N.A.	N.A.	1###, 2
6. Source Range, Neutron Flux	S	R(4, 5)	S/U(1),Q(8)	N.A.	N.A.	2##, 3, 4, 5
7. Overtemperature ΔT	S	R	Q	N.A.	N.A.	1, 2
8. Overpower ΔT	S	R	Q	N.A.	N.A.	1, 2
9. Pressurizer Pressure-Low	S	R	Q	N.A.	N.A.	1
10. Pressurizer Pressure-High	S	R	Q	N.A.	N.A.	1, 2
11. Pressurizer Water Level-High	S	R	Q	N.A.	N.A.	1
12. Reactor Coolant Flow-Low	S	R	Q	N.A.	N.A.	1

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
13. Steam Generator Water Level-Low-Low						
a. Steam Generator Water Level-Low-Low	S	R	Q	N.A.	N.A.	1, 2
b. RCS Loop ΔT	N.A.	R	Q	N.A.	N.A.	1, 2
14. DELETED						
15. Undervoltage-Reactor Coolant Pumps	N.A.	R	N.A.	Q	N.A.	1
16. Underfrequency-Reactor Coolant Pumps	N.A.	R	N.A.	Q	N.A.	1
17. Turbine Trip						
a. Low Fluid Oil Pressure	N.A.	N.A.	N.A.	S/U(1, 9)	N.A.	1
b. Turbine Stop Valve Closure	N.A.	N.A.	N.A.	S/U(1, 9)	N.A.	1
18. Safety Injection Input from ESF	N.A.	N.A.	N.A.	R24	N.A	1, 2
19. Reactor Coolant Pump Breaker Position Trip	N.A.	N.A.	N.A.	R24	N.A.	1
20. Reactor Trip System Interlocks						
a. Intermediate Range Neutron Flux, P-6	N.A.	R(4)	R	N.A.	N.A.	2##
b. Low Power Reactor Trips Block, P-7	N.A.	R(4)	R	N.A.	N.A.	1
c. Power Range Neutron Flux, P-8	N.A.	R(4)	R	N.A.	N.A.	1

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
20. Reactor Trip System Interlocks (Continued)						
d. Power Range Neutron Flux, P-9	N.A.	R(4)	R	N.A.	N.A.	1
e. Low Setpoint Power Range Neutron Flux, P-10	N.A.	R(4)	R	N.A.	N.A.	1, 2
f. Turbine Impulse Chamber Pressure, P-13	N.A.	R	R	N.A.	N.A.	1
21. Reactor Trip Breaker	N.A.	N.A.	N.A.	M(7, 10)	N.A.	1,2,3*,4*,5*
22. Automatic Trip and Interlock Logic	N.A.	N.A.	N.A.	N.A.	M(7)	1,2,3*,4*,5*
23. Seismic Trip	N.A.	R	N.A.	R	R	1, 2
24. Reactor Trip Bypass Breaker	N.A	N.A.	N.A.	M(7,15),R24(16)	N.A.	1,2,3*,4*,5*

TABLE 3.3-5 (Continued)

TABLE NOTATIONS

(1) Diesel generator starting delay not included because offsite power available.

(2) Notation deleted.

(3) Diesel generator starting and loading delays included.

(4) Diesel generator starting delay not included because offsite power is available. Response time limit includes opening of valves to establish SI path and attainment of discharge pressure for centrifugal charging pumps (where applicable). Sequential transfer of charging pump suction from the VCT to the RWST (RWST valves open, then VCT valves close) is included.

(5) Diesel generator starting and sequence loading delays included. Offsite power is not available. Response time limit includes opening of valves to establish SI path and attainment of discharge pressure for centrifugal charging pumps. Sequential transfer of charging pump suction from the VCT to the RWST (RWST valves open, then VCT valves close) is included.

(6) The maximum response time of 48.5 seconds is the time from when the containment pressure exceeds the High-High Setpoint until the spray pump is started and the discharge valve travels to the fully open position assuming off-site power is not available. The time of 48.5 seconds includes the 28-second maximum delay related to ESF loading sequence. Spray riser piping fill time is not included. The 80-second maximum spray delay time does not include the time from LOCA start to "P" signal.

(7) Diesel generator starting and sequence loading delays included. Sequential transfer of charging pump suction from the VCT to the RWST (RWST valves open, then VCT valves close) is not included. Response time limit includes opening of valves to establish SI flow path and attainment of discharge pressure for centrifugal charging pumps, SI, and RHR pumps (where applicable).

(8) Does not include Trip Time Delays. Response times include the transmitters, Eagle-21 Process Protection cabinets, Solid State Protection System cabinets and actuation devices only. This reflects the response times necessary for THERMAL POWER in excess of 50% RTP.

TABLE 4.3-2

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Safety Injection, (Reactor Trip Feedwater Isolation, Start Diesel Generators, Containment Fan Cooler Units, and Component Cooling Water)								
a. Manual Initiation	N.A.	N.A.	N.A.	R24	N.A.	N.A.	N.A.	1, 2, 3, 4
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R	1, 2, 3, 4
c. Containment Pressure-High	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
d. Pressurizer Pressure-Low	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
e. DELETED								
f. Steam Line Pressure-Low	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
2. Containment Spray (coincident with SI signal)								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R	1, 2, 3, 4
c. Containment Pressure-High-High	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4

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
3. Containment Isolation								
a. Phase "A" Isolation								
1) Manual	N.A.	N.A.	N.A.	R24	N.A.	N.A.	N.A.	1, 2, 3,
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R	1, 2, 3, 4
3) Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
b. Phase "B" Isolation								
1) Manual	N.A.	N.A.	N.A.	R24	N.A.	N.A.	N.A.	1, 2, 3, 4
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R	1, 2, 3, 4
3) Containment Pressure-High-High	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
c. Containment Ventilation Isolation								
1) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R	1, 2, 3, 4
2) Deleted								
3) Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
4) Containment Ventilation Exhaust Radiation-High (RM-44A and 44B)	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4

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
4. Steam Line Isolation								
a. Manual	N.A.	N.A.	N.A.	R24	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R	1, 2, 3
c. Containment Pressure-High-High	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Steam Line Pressure-Low	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
e. Negative Steam Line Pressure Rate-High	S	R	Q	N.A.	N.A.	N.A.	N.A.	3(3)
5. Turbine Trip and Feedwater Isolation								
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R	1, 2
b. Steam Generator Water Level-High-High	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2
6. Auxiliary Feedwater								
a. Manual	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R	1, 2, 3
c. Steam Generator Water Level-Low-Low								
1) Steam Generator Water Level-Low-Low	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3(5)
2) RCS Loop ΔT	N.A.	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2

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.	R	N.A.	R	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.	R	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

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.

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.

REACTOR COOLANT SYSTEM

3/4.4.3 PRESSURIZER

LIMITING CONDITION FOR OEPRATION

3.4.3 The pressurizer shall be OPERABLE with a water volume of less than or equal to 1600 cubic feet and two groups of pressurizer heaters each having a capacity of at least 150 kW.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one group of pressurizer heaters inoperable, restore at least two groups to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With the pressurizer otherwise inoperable, be in at least HOT STANDBY with the Reactor trip breakers open within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.3.1 The pressurizer water volume shall be determined to be within its limit at least once per 12 hours.

4.4.3.2 The capacity of each of the above required groups of pressurizer heaters shall be verified by measuring heater group power at least once per 92 days.

4.4.3.3 The emergency power supply for the pressurizer heaters shall be demonstrated OPERABLE at least once each REFUELING INTERVAL by transferring power from the normal to the emergency power supply and energizing the heaters.

3/4.4.4 RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.4.4 All power-operated relief valves (PORVs) and their associated block valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one or more PORV(s) inoperable because of excessive seat leakage, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) and maintain power to the block valve(s), otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With one or more PORV(s) inoperable due to causes other than excessive seat leakage, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) and remove power from the block valve(s), and

   1. With only one Class 1 PORV OPERABLE, restore at least a total of two Class 1 PORVs to OPERABLE status within the following 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours, or

   2. With no Class 1 PORVs OPERABLE, restore at least one Class 1 PORV to OPERABLE status within 1 hour and follow ACTION b.1, above, with the time requirement of that ACTION statement based on the time of initial loss of the remaining inoperable Class 1 PORV or be in at least HOT STANDBY within the next 6 hours and HOT SHUTDOWN within the following 6 hours.

c. With one or more block valve(s) inoperable, within 1 hour

   1. Restore the block valve(s) to OPERABLE status, or

   2. Close the PORV(s) and remove power from its associated solenoid.

   Also, comply with ACTION b, as appropriate, for the isolated PORV(s).

d. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

a. Monitoring the containment atmosphere particulate or gaseous radioactivity monitor at least once per 12 hours;

b. Monitoring the containment structure sump inventory and discharge at least once per 12 hours;

c. Measurement of the CONTROLLED LEAKAGE to the reactor coolant pump seals at least once per 31 days when the Reactor Coolant System pressure is 2235 ± 20 psig with the modulating valve fully open. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4;

d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours, except when T_{avg} is being changed by greater than 5°F/hour or when diverting reactor coolant to the liquid holdup tank, in which cases the required inventory balance shall be performed within 12 hours after completion of the excepted operation; and

e. Monitoring the Reactor Head Flange Leakoff System at least once per 24 hours.

4.4.6.2.2 As specified in Table 3.4-1, Reactor Coolant System pressure isolation valves shall be demonstrated OPERABLE pursuant to Specification 4.0.5, except that in lieu of any leakage testing required by Specification 4.0.5, each valve shall be demonstrated OPERABLE by verifying leakage to be within its limit:

a. At least once each REFUELING INTERVAL during startup,

b. Prior to returning the valve to service following maintenance, repair or replacement work on the valve, and

c. Within 24 hours following valve actuation due to automatic or manual action or flow through the valve. After each disturbance of the valve, in lieu of measuring leak rate, leak-tight integrity may be verified by absence of pressure buildup in the test line downstream of the valve.

The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

SURVEILLANCE REQUIREMENTS (Continued)

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

   1) For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

   2) At least once daily of the areas affected within containment by containment entry and during the final entry when CONTAINMENT INTEGRITY is established.

d. At least once each REFUELING INTERVAL by a visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion;

e. At least once each REFUELING INTERVAL by:

   1) Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection actuation test signal.

   2) Verifying that each of the following pumps start automatically upon receipt of a Safety Injection actuation test signal:

      a) Centrifugal charging pump,

      b) Safety Injection pump, and

      c) Residual Heat Removal pump.

f. By verifying that each of the following pumps develops the indicated differential pressure on recirculation flow when tested pursuant to Specification 4.0.5:

   1) Centrifugal charging pump $\geq$ 2400 psid,

   2) Safety Injection pump $\geq$ 1455 psid, and

   3) Residual Heat Removal pump $\geq$ 165 psid.

SURVEILLANCE REQUIREMENTS (Continued)

g. By verifying the correct position of each electrical and/or mechanical position stop for the following ECCS throttle valves:

1) Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE, and

2) At least once each REFUELING INTERVAL.

Charging Injection Throttle Valves	Safety Injection Throttle Valves
8810A	8822A
8810B	8822B
8810C	8822C
8810D	8822D

h. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying that:

1) For centrifugal charging pumps, with a single pump running:

a) The sum of injection line flow rates, excluding the highest flow rate, is greater than or equal to 299 gpm, and

CONTAINMENT STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With the structural integrity of the containment not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.6.1 Containment Surfaces The structural integrity of the exposed accessible interior and exterior surfaces of the containment, including the liner plate, shall be determined during shutdown by a visual inspection of these surfaces. This inspection shall be performed in accordance with the Containment Leakage Rate Testing Program to verify no apparent changes in appearance or other abnormal degradation.

4.6.1.6.2 Reports Any abnormal degradation of the containment structure detected during the above required inspections shall be reported to the Commission in a Special Report pursuant to Specification 6.9.2 within 15 days. This report shall include a description of the condition of the concrete, the inspection procedure, the tolerances on cracking, and the corrective actions taken.

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.7 One purge supply line and/or one purge exhaust line of the Containment Purge System may be open or the vacuum/pressure relief line may be open. The vacuum/pressure relief line may be open provided the vacuum/pressure relief isolation valves are blocked to prevent opening beyond 50° (90° is fully open). Operation with any two of these three lines open is permitted. Operation with the purge supply and/or exhaust isolation valves open or with the vacuum/pressure relief isolation valves open up to 50° shall be limited to less than or equal to 200 hours during a calendar year.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With a containment purge supply and/or exhaust isolation valve open or the vacuum/pressure relief isolation valves open up to 50° for more than 200 hours during a calendar year or the Containment Purge System open and the vacuum/pressure relief lines open, or with the vacuum/pressure relief isolation valves open beyond 50°, close the open isolation valve(s) or isolate the penetration(s) within 1 hour; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 The position of the containment purge supply and exhaust isolation valves and the vacuum/pressure relief isolation valves shall be determined closed at least once per 31 days.

4.6.1.7.2 The cumulative time that the purge supply and/or exhaust isolation valves or the vacuum/pressure relief isolation valves have been open during a calendar year shall be determined at least once per 7 days.

4.6.1.7.3 The vacuum/pressure relief isolation valves shall be verified to be blocked to prevent opening beyond 50° at least once each REFUELING INTERVAL.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two Containment Spray Systems shall be OPERABLE with each Spray System capable of taking suction from the RWST and transferring spray function to a RHR System taking suction from the containment sump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one Containment Spray System inoperable, restore the inoperable Spray System to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable Spray System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each Containment Spray System shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position;

b. By verifying that on recirculation flow, each pump develops a differential pressure of greater than or equal to 205 psid when tested pursuant to Specification 4.0.5;

c. At least once per 18 months by:

    1) Verifying that each automatic valve in the flow path actuates to its correct position on an actual or simulated actuation signal, and

    2) Verifying that each spray pump starts automatically on an actual or simulated actuation signal.

d. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

SPRAY ADDITIVE SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.2 The Spray Additive System shall be OPERABLE with:

a. A spray additive tank with a contained volume of between 2025 and 4000 gallons of between 30 and 32% by weight NaOH solution, and

b. Two spray additive eductors each capable of adding NaOH solution from the chemical additive tank to a Containment Spray System pump flow.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With the Spray Additive System inoperable, restore the system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the Spray Additive System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.2 The Spray Additive System shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position;

b. At least once per 6 months by:

1) Verifying the contained solution volume in the tank, and

2) Verifying the concentration of the NaOH solution by chemical analysis.

c. At least once each REFUELING INTERVAL by verifying that each automatic valve in the flow path actuates to its correct position on a Containment Spray actuation test signal; and

d. At least once per 5 years by verifying both spray additive and RWST full flow from the test valve 8993 in the Spray Additive System.

CONTAINMENT COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.3 The Containment Cooling System shall be OPERABLE with either:

a. At least four containment fan cooler units (CFCUs), or

b. At least three CFCUs, each of the three supplied from a different vital bus.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With the requirements of the above specification not satisfied, but at least two CFCUs OPERABLE and both Containment Spray Systems OPERABLE, restore the Containment Cooling System to OPERABLE status within 7 days, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With the requirements of the above specification not satisfied and one Containment Spray System inoperable, but at least two CFCUs OPERABLE, restore the inoperable Containment Spray System to OPERABLE status within 72 hours otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the Containment Cooling System to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 Each containment fan cooler unit shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1) Starting each containment fan cooler unit and verifying that each containment fan cooler unit operates for at least 15 minutes,

SURVEILLANCE REQUIREMENTS (Continued)

2) Verifying a cooling water flow rate of greater than or equal to 1650* gpm to each cooler, and

3) Verifying that each containment fan cooler unit starts on low speed.

b. At least once each REFUELING INTERVAL by verifying that each containment fan cooler unit starts automatically on a Safety Injection test signal.

*The CFCU cooling water flow rate requirement of TS 4.6.2.3a.2) may not be met during Section XI testing and in Mode 4 during residual heat removal heat exchanger operation.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3 Each containment isolation valve shall be OPERABLE.*

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one or more of the isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

*Locked or sealed closed valves may be opened on an intermittent basis under administrative control.

SURVEILLANCE REQUIREMENTS

4.6.3.1 Each containment isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test, and verification of isolation time.

4.6.3.2 Each containment isolation valve shall be demonstrated OPERABLE at least once each REFUELING INTERVAL by:

a. Verifying that on a Phase "A" Isolation test signal, each Phase "A" isolation valve actuates to its isolation position;

b. Verifying that on a Phase "B" Isolation test signal, each Phase "B" isolation valve actuates to its isolation position; and

c. Verifying that on a Containment Ventilation Isolation test signal, each containment ventilation isolation valve actuates to its isolation position.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.3 The isolation time of each testable power-operated or automatic containment isolation valve shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 Each containment ventilation isolation valve, except the air sample supply and return valves, shall be demonstrated OPERABLE within 24 hours after each closing of the valve, except when the valve is being used for multiple cycling, then at least once per 72 hours by verifying leakage rates in accordance with the Containment Leakage Rate Testing Program.

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS/MONITORS

LIMITING CONDITION FOR OPERATION

3.6.4.1 Two independent containment hydrogen analyzers/monitors shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With one hydrogen analyzer/monitor inoperable, restore the inoperable analyzer/monitor to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

b. With both hydrogen analyzer/monitors inoperable, restore at least one analyzer/monitor to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each hydrogen analyzer/monitor shall be demonstrated OPERABLE at least once per 92 days by performing a CHANNEL CALIBRATION using a zero and span gas.

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two independent Hydrogen Recombiner Systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one Hydrogen Recombiner System inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each Hydrogen Recombiner System shall be demonstrated OPERABLE:

a. At least once each REFUELING INTERVAL by verifying, during a Recombiner System functional test, that the minimum heater sheath temperature increases to greater than or equal to 700°F within 90 minutes. Upon reaching 700°F, increase the power setting to maximum power for 2 minutes and verify that the power meter reads greater than or equal to 60 kW; and

b. At least once each REFUELING INTERVAL by:

   1) Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits,

   2) Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosure (i.e., loose wiring or structural connections, deposits of foreign materials, etc.), and

   3) Verifying the integrity of all heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 10,000 ohms.

SURVEILLANCE REQUIREMENTS

(2) Verifying that each non-automatic valve in the pump flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

(3) Verifying that each non-automatic valve in both steam supplies to the steam turbine-driven pump that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 92 days on a STAGGERED TEST BASIS by: testing the steam turbine-driven pump and motor-driven pumps pursuant to Specification 4.0.5*. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 for the steam turbine-driven pump.

c. At least once each REFUELING INTERVAL by verifying that each auxiliary feedwater pump starts and valve opens* as designed automatically upon receipt of an Auxiliary Feedwater Actuation test signal.

*For the steam turbine-driven pump, when the secondary steam supply pressure is greater than 650 psig.

AUXILIARY FEEDWATER SOURCE

LIMITING CONDITION FOR OPERATION

3.7.1.3 The Condensate Storage Tank (CST) shall have a usable volume of at least 164,678 gallons of water with an open flow path to the Auxiliary Feedwater (AFW) pump suction, and the Fire Water Storage Tank (FWST) shall have a usable volume of at least 57,922 gallons of water for one Unit operation and 115,844 gallons of water for two Unit operation with a flow path capable of being aligned to the AFW pump suction.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With the CST usable volume less than 164,678 gallons, or with the CST flow path not open to the AFW pumps suction, within four hours restore the required conditions; or, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With an FWST usable volume less than 57,922 gallons for one Unit operation and 115,844 gallons for two Unit operation, or with the FWST flow path not capable of being aligned to the AFW pump suction, within seven days restore the required FWST conditions; or, be in at least HOT STANDBY, within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.3.1 The CST volume shall be demonstrated at least once per 12 hours by verifying the usable volume is within its limits.

4.7.1.3.2 The FWST volume shall be demonstrated at least once per 12 hours by verifying the usable volume is within its limits.

4.7.1.3.3 Verify the FWST is capable of being aligned to the Auxiliary Feedwater System by cycling each FWST valve in the flow path necessary for realignment through at least one full cycle once per quarter.

STEAM GENERATOR 10% ATMOSPHERIC DUMP VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.6 Four steam generator 10% atmospheric dump valves (ADVs) with the associated block valves open and associated remote manual controls, including the backup air bottles, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one less than the required number of 10% ADVs OPERABLE, restore the inoperable steam generator 10% ADV to OPERABLE status within 7 days; or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With two less than the required numbered of 10% ADVs OPERABLE, restore at least one of the inoperable steam generator 10% ADVs to OPERABLE status within 72 hours; or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.6 Each steam generator 10% ADV, associated block valve and associated remote manual controls including the backup air bottles shall be demonstrated OPERABLE:

a. At least once per 24 hours by verifying that the backup air bottle for each steam generator 10% ADV has a pressure greater than or equal to 260 psig, and

b. At least once per 31 days by verifying that the steam generator 10% ADV block valves are open, and

c. At least once each REFUELING INTERVAL by verifying that all steam generator 10% ADVs will operate using the remote manual controls and the backup air bottles. |

3/4.7.3 VITAL COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two vital component cooling water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With only one vital component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3.1 At least two vital component cooling water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position; and

b. At least once each REFUELING INTERVAL, by verifying that each automatic valve servicing safety-related equipment actuates to its correct position on a Safety Injection or Phase "B" Isolation test signal, as appropriate.

c. At least once each REFUELING INTERVAL, by verifying that each component cooling water pump starts automatically on an actual or simulated actuation signal.

3/4.7.4 AUXILIARY SALTWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two auxiliary saltwater trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With only one auxiliary saltwater train OPERABLE, restore at least two trains to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4.1 At least two auxiliary saltwater trains shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

4.7.4.2 Each auxiliary saltwater pump shall be demonstrated OPERABLE at least once each REFUELING INTERVAL by verifying that each pump starts automatically on an actual or simulated actuation signal.

specification results in entry into a MODE or condition of operation for another specification in which the requirements of the Limiting Condition for Operation are not met. If the new specification becomes applicable in less time than specified, the difference may be added to the allowable outage time limits of the second specification. However, the allowable outage time limits of ACTION requirements for a higher MODE of operation may not be used to extend the allowable outage time that is applicable when a Limiting Condition for Operation is not met in a lower MODE of opcration.

The shutdown requirements of Specification 3.0.3 do not apply in MODES 5 and 6 because the ACTION requirements of individual specifications define the remedial measures to be taken.

3.0.4 This specification establishes limitations on MODE changes when a Limiting Condition for Operation is not met. It precludes placing the facility in a higher MODE of operation when the requirements for a Limiting Condition for Operation are not met and continued noncompliance to these conditions would result in a shutdown to comply with the ACTION requirements if a change in MODES were permitted. The purpose of this specification is to ensure that facility operation is not initiated or that higher MODES of operation are not entered when corrective action is being taken to obtain compliance with a specification by restoring equipment to OPERABLE status or parameters to specified limits. Compliance with ACTION requirements that permit continued operation of the facility for an unlimited period of time provides an acceptable level of safety for continued operation without regard to the status of the plant before or after a MODE change. Therefore, in this case, entry into an OPERATIONAL MODE or other specified condition may be made in accordance with the provisions of the ACTION requirements. The provisions of this specification should not, however, be interpreted as endorsing the failure to exercise good practice in restoring systems or components to OPERABLE status before plant startup.

When a shutdown is required to comply with ACTION requirements, the provisions of Specification 3.0.4 do not apply because they would delay placing the facility in a lower MODE of operation.

APPLICABILITY

BASES

3.0.5 This specification delineates the applicability of each specification to Unit 1 and Unit 2 operation.

4.0.1 This specification establishes the requirement that surveillances must be performed during the OPERATIONAL MODES or other conditions for which the requirements of the Limiting Conditions for Operation apply unless otherwise stated in an individual Surveillance Requirement. The purpose of this specification is to ensure that surveillances are performed to verify the operational status of systems and components and that parameters are within specified limits to ensure safe operation of the facility when the plant is in a MODE or other specified condition or which the associated Limiting Conditions for Operation are applicable. Surveillance Requirements do not have to be performed when the facility is in an OPERATIONAL MODE for which the requirements of the associated Limiting Condition for Operation do not apply unless otherwise specified. The Surveillance Requirements associated with a Special Test Exception are only applicable when the Special Test is used as an allowable exception to the requirements of a specification.

4.0.2 Specification 4.0.2 establishes the limit for which the specified time interval for Surveillance Requirements may be extended. It permits an allowable extension of the normal surveillance interval to facilitate surveillance scheduling and consideration of plant operating conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. It also provides flexibility to accommodate the length of a fuel cycle for surveillances that are specified to be performed at least once each REFUELING INTERVAL. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed once each REFUELING INTERVAL. Likewise, it is not the intent that REFUELING INTERVAL surveillances be performed during power operation unless it is consistent with safe plant operation. The limitation of Specification 4.0.2 is based on engineering judgment and the recognition that the most probable result of any particulate surveillance being performed is the verification of conformance with the Surveillance Requirements. This provision is sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

4.0.3 This specification establishes the failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, as a condition that constitutes a failure to meet the OPERABILITY requirements for a Limiting Condition for Operation. Under the provisions of this specification, systems and components are assumed to be OPERABLE when Surveillance Requirements have been satisfactorily performed within the specified time interval. However, nothing in this provision is to be construed as implying that systems or components are OPERABLE when they are found or known to be inoperable although still meeting the Surveillance Requirements. This specification also clarifies that the ACTION requirements are applicable when Surveillance Requirements have not been completed within the allowed surveillance interval and that the time limits of the ACTION requirements apply from the point in time it is identified that a surveillance has not been performed and not at the time that the allowed

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 118 TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 116 TO FACILITY OPERATING LICENSE NO. DPR-82

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-275 AND 50-323

1.0 INTRODUCTION

By application dated February 14, 1996, as supplemented by letter dated February 24, 1997, Pacific Gas and Electric Company (or the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License Nos. DPR-80 and DPR-82) for the Diablo Canyon Nuclear Power Plant, Units 1 and 2. The changes revise the combined Technical Specifications (TS) for the Diablo Canyon Power Plant (DCPP) Unit Nos. 1 and 2 to revise 30 TS and add two new TS surveillance requirements to support implementation of extended fuel cycles at DCPP Unit Nos. 1 and 2. The specific TS changes include those for 9 trip actuating device tests, 12 fluid system actuation tests, and 11 miscellaneous tests. Two of the fluid system actuation tests are new TS surveillance requirements. The TS changes also involves adding a new frequency notation, "R24, REFUELING INTERVAL," to Table 1.1 of the TS. Also, a revision that applies to all subsequent TS changes involves revising the Bases section of TS 4.0.2 to change the surveillance frequency from an 18-month surveillance interval to at least once each REFUELING INTERVAL.

The February 24, 1997, supplemental letter provided additional clarifying information and did not change the initial no significant hazards consideration determination published in the Federal Register on June 19, 1996 (61 FR 31183).

2.0 BACKGROUND

Recently, the licensee conducted a feasibility-study for increasing the fuel cycle length from current 18 months to 24 months for both units of DCPP. The results of this study indicated that a 24-month fuel cycle is not only feasible but also is beneficial because of fewer refuelings, improved outage scheduling and reduced personnel exposure. Therefore, the licensee decided to implement the extended 24 month fuel cycles at both units of the DCPP.

Current DCPP TS require that surveillance tests for some functional units be performed at least once per refueling interval. Therefore, the surveillance test interval (STI) for these functional units have been identified by a notation "R" in an appropriate column of the current TS instrumentation tables. With the extended fuel cycle, the STI for these functional units will be 24 months. The licensee decided to retain the current 18-month STI for some functional units, and therefore, would retain the notation "R" for 18-month STI for these functional units, and to use a new notation "R24" for functional units with 24-month STI. This will allow a clear differentiation between 24-month and 18-month STIs. For other surveillance tests the words "REFUELING INTERVAL" will replace the current wording to indicate the change to the new 24 month fuel cycle.

3.0 EVALUATION

Except for several editorial changes, most of the proposed changes extend the surveillance interval from 18 to 24 months for various functional units. To confirm that the effect on safety of extending surveillance intervals is insignificant, the licensee's submittal provided information on each of the proposed changes focusing on verifying that no time-dependent failure mechanisms exist, and no known mechanism exists that would significantly degrade the performance of the device-in-question during normal plant operation over the extended maximum surveillance interval.

In the evaluation of each of the proposed changes, the licensee addressed various applicable factors including (1) the safety function(s) of the component/system, (2) the impact of the STI-change on safety, (3) impact on other TSs (if any) which also stipulate performing similar tests during an operating cycle and/or during a refueling outage, (4) the operating, surveillance and maintenance histories and problems identified through these histories in the past and the nature of corrective actions implemented, and (5) related NRC generic communications and industry experience.

In their submittal, the licensee stated that the request for the proposed modifications in STIs is based on guidance provided by the staff in Generic Letter (GL) 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-month Fuel Cycle," dated April 2, 1991. GL 91-04 provides guidance on how licensees should evaluate the effects of an extension to a 24-month surveillance interval on the safety of the plant. The licensee performed a detailed engineering analysis of the affected systems and instrument-loops to establish the basis for a maximum 30 month (24 months + 25 percent additional surveillance frequency allowance) calibration frequency and to verify that the surveillance interval extensions have an insignificant effect on plant safety by verifying that the extended frequency of surveillance would not invalidate any assumptions in the plant's licensing basis.

3.1 Definition

Proposed TS change: TS Table 1.1, Frequency Notation, add a new notation "R24, Refueling Interval", with a frequency of "At least once per 24 months."

Justification for the Change: The proposed change to TS Table 1.1 to add a new notation for 24-month surveillance intervals is an administrative change. The licensee has retained the existing notation "R" for frequency "at least once for 18 months", and addition of a new notation "R24, REFUELING INTERVAL" clarifies the difference between 18 and 24 months frequencies. The proposed revision is consistent with the guidance provided in Generic Letter (GL) 91-04 and is therefore acceptable to the staff.

3.2 Bases

Proposed TS change: Bases Section 4.0.2, replace the paragraph, "It also provides flexibility to accommodate the length of a fuel cycle for surveillances that are performed at each refueling outage and are specified with an 18-month surveillance interval. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outages," with "It also provides flexibility to accommodate the length of a fuel cycle for surveillances that are specified to be performed at least once each REFUELING INTERVAL. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed once each REFUELING INTERVAL. Likewise, it is not the intent that REFUELING INTERVAL surveillances be performed during power operation unless it is consistent with safe plant operation."

Justification for the Change: The licensee proposed changes to the Bases Section of TS 4.0.2 on the allowance for extending surveillance intervals. These changes clarify that refueling interval surveillances should not be performed during power operation unless such action is consistent with safe plant operation. The removal of the qualification to perform some surveillances during shutdown and the clarification of the Bases for TS 4.0.2 are consistent with the guidance provided in Generic Letter 91-04.

3.3 Reactivity Control Systems - Rod Position Indication

Proposed TS change: TS 4.1.3.3, Reactivity Control Systems, rod position indication. Revise surveillance frequency from once per 18 months to once each refueling interval.

Justification for the Change: Rod position indication is required to assess operability and misalignment of the control rods. The axial position of the control rods (shutdown banks and control banks) are determined by two separate and independent systems: the demand position indicators (DPI - the group step counters which counts the demand pulses) and the digital rod position indicators (DRPI - indicates actual position of the rod in response to demand pulses). The TS surveillance requires the DPRI to agree with DPI within 12 steps across the entire range of travel for each control rod. The DPRI surveillance is performed once each refueling outage after the reactor core has been reloaded and reactor and DRPI reassembly is completed. The licensee's review of the surveillance, maintenance and operating history of the system indicated that there have been few failures within this system, and none were time-dependent. The licensee's maintenance program has been modified to support extension of the maintenance intervals to correspond to the extended STI. The licensee concluded that the effect on safety of extending the surveillance to 24 months is insignificant and that the system will continue to perform satisfactorily with a longer surveillance interval. In addition, the rod movement and rod position verification is routinely performed once in 12 hours in Modes 1 and 2. This change is acceptable to the staff.

3.4 Reactivity Control Systems - Rod Drop Time

Proposed TS change: TS 4.1.3.4.c, Reactivity Control Systems, rod drop time. Revise surveillance frequency from once per 18 months to once each refueling interval.

Justification for the Change: Operability of the control rods is an initial assumption in all safety analyses that assume rod insertion upon reactor trip signal. On reactor trip signal, power is removed from the electromagnets and the gripper latches automatically release the control rods allowing them to fall into the core by gravity. The current TS (CTS) surveillance requires rod drop time to be less than or equal to 2.7 seconds for a fully withdrawn rod, starting decay of stationary gripper coil voltage and ending at dashpot entry. Increase in rod drop time may result if one or combination of factors including swelling or movement of the adjacent fuel, excessive rod wear, or foreign materials are inadvertently deposited in the core. Out of these factors, fuel swelling or movement may be time dependent. The licensee stated that to evaluate the effect of extended cycle operation on fuel assembly bowing, Westinghouse conducted testing. Results of this test indicated that the potential bowing will have no impact on rod drop time. The licensee stated that interference, excessive rod wear, or foreign materials in the core that could impact rod drop time, but this would be detected by identifying slow rods or stuck rods during a routine rod movement test, performed once in every 12 hours. The licensee further stated that the surveillance, maintenance and operational history of the rod insertion system supports the conclusion that the effect on safety of extending the surveillance interval is small and no time-related dependence was evident for control rod drop times. This change is acceptable to the staff.

3.5 Reactor Trip System and Engineering Safety Features Actuation System Instrumentation Surveillance Requirements

Proposed TS changes:

TS 4.3.1.1, Table 4.3-1, Reactor Trip System Instrumentation Surveillance Requirements, Functional Unit 1, Manual Reactor Trip. Revise Trip Actuating Device Operational Test frequency from R with Note 14 applying to R24 with Note 14 applying.

TS 4.3.1.1, Table 4.3-1, Reactor Trip System Instrumentation Surveillance Requirements, Functional Unit 18, Safety Injection Input from ESF. Revise Trip Actuating Device Operational Test frequency from R to R24.

TS 4.3.1.1, Table 4.3-1, Reactor Trip System Instrumentation Surveillance Requirements, Functional Unit 19, Reactor Coolant Pump Breaker Position Trip. Revise Trip Actuating Device Operational Test frequency from R to R24.

TS 4.3.1.1, Table 4.3-1, Reactor Trip System Instrumentation Surveillance Requirements, Functional Unit 24, Reactor Trip Bypass Breaker. Revise Trip Actuating Device Operational Test frequency from M with Notes 7, 15 applying, R with Note 16 applying to M with Notes 7, 15 applying, R24 with Note 16.

TS 4.3.2.1, Table 4.3-2, Engineered Safety Features Actuation System Instrumentation Surveillance Requirements, Functional Unit 1.a, Safety Injection, Manual Initiation. Revise Trip Actuating Device Operational Test frequency from R to R24.

TS 4.3.2.1, Table 4.3-2, Engineered Safety Features Actuation System Instrumentation Surveillance Requirements, Functional Unit 3.a.1, Containment Isolation, Phase "A" Isolation, Manual. Revise Trip Actuating Device Operational Test frequency from R to R24.

TS 4.3.2.1, Table 4.3-2, Engineered Safety Features Actuation System Instrumentation Surveillance Requirements, Functional Unit 3.b.1, Containment Isolation, Phase "B" Isolation, Manual. Revise Trip Actuating Device Operational Test frequency from R to R24.

TS 4.3.2.1, Table 4.3-2, Engineered Safety Features Actuation System Instrumentation Surveillance Requirements, Functional Unit 4.a, Steam Line Isolation, Manual. Revise Trip Actuating Device Operational Test frequency from R to R24.

TS 4.3.2.1, Table 4.3-2, Engineered Safety Features Actuation System Instrumentation Surveillance Requirements, Functional Unit 8.c, Engineered Safety Feature Actuation System Interlocks, Reactor Trip, P-4. Revise Trip Actuating Device Operational Test frequency from R to R24.

<u>Justification for the Change</u>: Devices of functional units of item 3.5.1.1 through item 3.5.1.9 are either manual switches, auxiliary contacts of breakers, shunt-trip solenoids, relays and relay contacts, or solid state logic states. These devices are tested only during a refueling outage. Testing includes operating of the device and verifying the operability of related alarms, interlocks and/or trips. The licensee stated that these devices do not experience time-dependent drift, and that a review of surveillance, maintenance and operational history of these devices indicated that there were no time-dependent failures or problems in meeting the TS test requirements. In addition, there were no recurring failures observed in historical data. The licensee concluded that the effect on safety of extending the surveillance intervals is small. The staff finds the licensee's conclusion for the proposed change acceptable.

3.6 Pressurizer

Proposed TS change: TS 4.4.3.3, Pressurizer, Transfer of Pressurizer Heaters from its normal supply to Emergency Power Supply. Revise surveillance frequency from once per 18 months to once each refueling interval.

Justification for the Change: The 4 pressurizer heater groups are normally powered from non-vital power buses and, only in the event of loss of normal power, 2 out of these 4 groups are manually transferred to the vital power source. CTS requires the emergency power supply for these groups be demonstrated operable at least once per 18 months by transferring power from the normal to the emergency power supply and energizing the heaters. Proposed revision will change the 18 months period to 24 months. In their submittal, the licensee stated that the operability of the power supply transfer and energization of the two groups of heaters from the emergency vital power source is demonstrated once in every quarter by meeting TS 4.3.2.1 requirements. The licensee further stated that except failures observed once in one breaker and once in transfer switch, the surveillance, maintenance and operating history indicated that the effect on safety of extending the surveillance interval is small, no unsatisfactory time-related dependence was identified for operability of heater elements, breakers or for transfer switches for the past 10 years. In addition, the licensee plans to replace existing emergency power breakers with a new and more reliable breaker. The licensee concluded that the effect on safety of extending the surveillance intervals is small. The staff finds the proposed change acceptable.

3.7 Reactor Coolant System - Operational Leakage - Pressure Isolation Valves

Proposed TS change: TS 4.4.6.2.2.a, Reactor Coolant System, Reactor Coolant System Pressure Isolation Valves. Revise surveillance requirement a. which reads, "Every refueling outage during startup," to read "At least once each Refueling Interval."

Justification for the Change: The RCS pressure isolation valves (PIVs) are the two normally closed valves in series which separate the high pressure RCS from attached low pressure system, residual heat removal (RHR) and safety injection (SI) systems. These valves are listed in TS Table 3.4.1. Leak testing of the PIVs is performed on a refueling frequency except for three valves which are only to be leak tested if work is performed on them or if another valve in the isolation series failed its leakage test. These three valves are the third of PIVs from the RCS on the hot leg injection flowpath. TS 4.4.6.2.2c requires that these valves are leak tested within 24 hours following valve actuation due to automatic or manual action or flow through the valve. Additional assurance of valve operability is provided by TS 4.4.6.2.2b which requires leakage testing prior to returning any of these valves to service following maintenance, repair, or replacement work on the valve. The licensee stated that a review of surveillance, maintenance and operational history indicated three past leakage problems which did not affect the ability to maintain the integrity of the RCS with two PIVs during normal operation. The licensee stated that there are no recurring surveillance or maintenance problems, no time-dependent failure history and that the effect on safety of extending the surveillance interval is small. The NRC staff finds the proposed change acceptable.

3.8 Emergency Core Cooling Systems - ECCS Subsystems-$T_{avg} \geq 350^0F$ - Containment Recirculation Sump Inspection

Proposed TS changes: TS 4.5.2.d, Emergency Core Cooling Systems, ECCS Subsystems-$T_{avg} \geq 350^0F$, Containment Recirculation Sump Inspection. Revise surveillance frequency from once per 18 months to once each refueling interval.

Justification for the Change: The function of the containment recirculation sump is to provide unimpeded suction source for the residual heat removal (RHR) pumps during the recirculation phase following a loss-of-coolant accident (LOCA). The RHR suction line inlets are protected by two (inner and outer) debris interceptors composed of layers of wire mesh screen and steel grating. The debris interceptors have a large surface area and therefore the RHR pumps are provided with adequate net positive suction head even if the outer screens are up to 95 percent blocked. The sump screens and internals are designed to prevent vortexing and air entrainment in the RHR pump suction lines in the event of partial screen blockage. The outer debris interceptor surrounds the entire sump and the inner debris interceptor covers the RHR suction line inlets. The sump materials were chosen to avoid degradation during periods of inactivity and power operation. The containment sump is inspected at the beginning of each outage to identify items requiring maintenance and then at the end of the outage prior to containment closure. This inspection is to ensure that the sump will provide a sufficient suction source for the RHR pumps during the recirculation phase of a LOCA. The licensee stated that a review of surveillance, maintenance and operational history indicated that there was no time-dependent evidence of accumulation of debris or foreign materials. The only time-dependency was related to corrosion and coating degradation and these areas would be replaced or repaired prior to degrading to the point where sump integrity could be challenged. The time-related forms of sump degradation are long-term relative to the maximum refueling outage inspection interval of 30 months. The NRC staff finds the proposed change acceptable.

3.9 Automatic Valve Actuations

Proposed TS Changes:

TS 4.5.2.e.1, Emergency Core Cooling Systems, ECCS Subsystems-$T_{avg} \geq 350^0F$, Automatic Safety Injection (SI) Valves. Revise surveillance frequency from once per 18 months to once each refueling interval.

TS 4.6.2.2.c, Containment Systems, Spray Additive System, Automatic valves. Revise surveillance frequency from once per 18 months to once each refueling interval.

TS 4.6.3.2.a, Containment Systems, Containment Isolation Valves, Phase "A" Isolation Valves Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

TS 4.6.3.2.b, Containment Systems, Containment Isolation Valves, Phase "B" Isolation Valves Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

TS 4.6.3.2.c, Containment Systems, Containment Isolation Valves, Containment Ventilation Isolation (CVI) Valves Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

TS 4.7.3.1.b, Plant Systems, Vital Component Cooling Water System Valves Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

Justification for the Changes: These TS surveillances verify that safety-related automatic valve actuations occur as assumed in the safety analysis. The actuation signals required for these surveillances are SI, containment spray (CS), Phase "A" isolation, Phase "B" isolation, and CVI. There are three automatic containment isolation signals produced during accident conditions. Containment Phase "A" isolation occurs on an SI signal, which isolates non-essential process lines in order to minimize leakage of fission product radioactivity. Containment Phase "B" isolation occurs upon receipt of a containment pressure high-high signal and isolates the remaining process lines, except systems required for accident mitigation. An automatic CVI occurs upon receipt of an SI signal or a containment high radiation condition. These valves help ensure that the containment atmosphere will be isolated from the environment after a design basis accident. These automatic valves consist of both motor-operated valves (MOVs) and air-operated valves (AOVs). Other valves actuated by these TS serve functions other than containment isolation, such as realignment of the boron injection flowpath, spray additive system valves, and isolation of the non-vital component cooling water (CCW) header from the vital header. These valves are MOVs. The surveillances are performed using test signals generated via the solid state protection system (SSPS) slave relay test switches or during integrated system testing. These signals actuate the individual control solenoids for AOVs or motor control circuits for MOVs. Each valve is verified to travel to its safeguards position. These valves are tested on a refueling frequency as a minimum. These valves are also demonstrated operable by use of other TS, such as after maintenance work, and by testing of the isolation time pursuant to inservice testing (IST). Therefore two-thirds of the valves are tested quarterly. The licensee stated that a review of surveillance, maintenance and operational history indicated no time-dependent failures or problems in satisfying the respective TS requirements. The NRC staff finds the proposed changes acceptable.

3.10 Automatic Pump and Fan Actuations

Proposed TS changes:

TS 4.5.2.e.2, Emergency Core Cooling Systems, ECCS Subsystems-$T_{avg} \geq 350^0F$, Automatic Pump Starts on Safety injection Signal. Revise surveillance frequency from once per 18 months to once each refueling interval.

TS 4.6.2.3.b, Containment Systems, Containment Cooling System, Containment Fan Cooling Unit Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

TS 4.7.1.2.1.c, Plant Systems, Auxiliary Feedwater system, Automatic Actuation Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

Justification for the Changes: These TS surveillances verify that certain safety-related automatic pump starts occur as assumed in the safety analysis. The engineering safety features actuation system (ESFAS) initiates necessary safety systems to protect against violating core design limits, mitigating accidents, and protecting the reactor coolant system (RCS) pressure boundary. The engineered safety feature (ESF) components in these TS are the emergency core cooling system (ECCS) pumps, the containment fan cooler units (CFCUs), and the auxiliary feedwater (AFW) pumps. The ECCS pumps provide core cooling and negative reactivity to ensure that the reactor core is protected after a design basis accident. The CFCUs have both normal and accident functions. The CFCUs operate to ensure that the containment air temperature is maintained within the TS limits. During an accident the CFCUs ensure that adequate heat removal capability is available. Together with containment spray, the CFCUs limit post-accident pressure and temperature to less than design values in the containment. The AFW pumps ensure that the RCS can be cooled down to less than 350°F from normal operating conditions in the event of a total loss of off-site power. The system automatically supplies feedwater to the steam generators (SGs) to remove decay heat from the RCS upon loss of the normal feedwater supply. The components that generate ESFAS pump and fan automatic starts are the solid state protection system (SSPS) actuation logic and relays, the ESF timers, the 4kV breakers, and the pumps and fans. The surveillances are performed using test signals which actuate SSPS slave relays, which actuate discrete ESF timers, which actuate the individual pumps or CFCUs. The turbine-driven AFW pump is started using SSPS actuation logic and relays, a steam supply, FCV-95, and the turbine-driven AFW pump. The surveillance has a test signal actuate the SSPS slave relays, which actuate FCV-95 to stroke open admitting steam to the turbine-driven AFW pump. The ESFAS pump and fan automatic starts and the automatic opening of FCV-95 are currently tested on a refueling outage basis to meet TS 4.3.2.1 on slave relay testing. The operability of the pumps is verified quarterly pursuant to TS 4.0.5 using TS 4.5.2f (ECCS pumps) and TS 4.7.1.2.1b (AFW pumps). The CFCUs are demonstrated operable by TS 4.6.2.3a, which requires that the CFCUs are tested every 31 days. The automatic logic of the SSPS is performed pursuant to TS 4.3.2.1 on a staggered monthly basis. The licensee stated that a review of surveillance, maintenance and operational history indicated there are no time-dependent failures or problems associated with these surveillances. The NRC staff finds the licensee's conclusion for the proposed change acceptable.

3.11 Emergency Core Cooling Systems - ECCS Subsystems - T_{avg} 350°F, ECCS Throttle Valve Position Stop Verification

Proposed TS change: TS 4.5.2g.2, Emergency Core Cooling Systems, ECCS Subsystems-$T_{avg} \geq 350^0F$, ECCS Throttle Valve Position Stop Verification. Revise surveillance frequency from once per 18 months to once each refueling interval.

Justification for the Change: The ECCS throttle valves ensure that sufficient emergency core cooling is provided following a LOCA. The eight valves are located in containment, one in each of the four charging injection and four safety injection (SI) lines to the RCS cold legs. The valves are locked in position during ECCS flow balance testing after centrifugal charging pump and SI pump flows are set. The locked throttle valves ensure that pump runout limits, maximum and minimum injection flow requirements, and line-to-line balance requirements are achieved. These valves are designed with an integral mechanical stem lock. Lockwires are fastened through loops attached to the valve yoke, stem lock, and lock cover, and then numbered plastic valve seals are installed. The surveillance is completed by verifying the plastic valve seals, and lockwire are still intact and that the number on the plastic seal has not changed. This is performed at the beginning and end of the refueling outage. These checks are to ensure that the throttle valves remain correctly set so that the accident analysis assumptions concerning system resistance and design flow are met. The licensee stated that a review of the surveillance, maintenance and operational history indicated that there are no time-dependent failures or problems related to the throttle valves. The NRC staff finds the licensee's conclusion for the proposed change acceptable.

3.12 Containment Systems, Containment Ventilation System - Vacuum/Pressure Relief Isolation Valve Position Blocks

Proposed TS change: TS 4.6.1.7.3, Containment Systems, Containment Ventilation System, Vacuum/Pressure Relief Isolation Valve Position Blocks. Revise surveillance frequency from once per 18 months to once each refueling interval.

Justification for the Change: The containment pressure and vacuum relief system operates to assure that the containment pressure limits for normal operation, as assumed in the accident analysis, are not exceeded. The system also maintains the air in containment within habitability limits. The system allows air flow into or out of the containment. Outside of containment, the line branches to either the vacuum or pressure relief pathways. This has one inboard isolation valve, FCV-662 and two parallel outboard isolation valves, FCV-663 and FCV-664, all of which are butterfly valves. These valves are closed by a containment ventilation isolation signal. The surveillance verifies that the valves are blocked to prevent them from opening beyond 50° (90° is fully open). This angle is to ensure that the valve can close against the increasing differential pressure and resulting dynamic loading of a design basis LOCA. The blocking mechanism is a permananetly installed stop sleeve made of steel pipe, mounted on the actuator piston rod. The verification of the valve position blocking is completed as part of the exercising and position verification tests used to verify valve operability performed each refueling outage. The licensee stated a review of the maintenance, surveillance and operational history indicated no time dependent failures or problems with the valve position block stop sleeves. The NRC staff finds the proposed change acceptable.

3.13 Containment Systems, Electric Hydrogen Recombiners

Proposed TS changes

TS 4.6.4.2.a, Containment Systems, Electric Hydrogen Recombiner Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

TS 4.6.4.2.b.1, Containment Systems, Electric Hydrogen Recombiner Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

TS 4.6.4.2.b.2, Containment Systems, Electric Hydrogen Recombiner Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

TS 4.6.4.2.b.3, Containment Systems, Electric Hydrogen Recombiner Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

Justification for the Change: These TS demonstrate operability of electric hydrogen recombiner system (EHRS). The EHRS does not require any instrumentation inside the containment for proper operation after loss of coolant accident (LOCA). Thermocouples are provided for convenience in testing and temperature readout is a monitoring rather than control function. Proper operation of EHRS after an accident is ensured by measuring the amount of power supplied to the recombiner from the control panel. The functional testing, instruments and controls calibration, visual inspections and integrity verification of heater elements for EHRS are performed each refueling outage. In their submittal the licensee stated that ERHS units are mechanically passive, and are not subject to mechanical failure. Credible failures involve loss of power, internal flow blockage or missile impact. Because the system is normally de-energized and is maintained in standby condition, there are no accelerated time-dependent failure mechanisms such as heating or wear. The power and control cabinets are located outside of containment in a mild environment and could be maintained after an accident if necessary. Although surveillance test history indicated few failures, none of the failures would have prevented EHRS from performing its design intended safety function. The surveillance, maintenance and operating history of EHRS supports the conclusion that effect on safety of extending the surveillance interval is small. The NRC staff finds the change acceptable.

3.14 Plant Systems, Steam Generator 10% Atmospheric Dump Valves

Proposed TS change: TS 4.7.1.6.c, Plant Systems, Steam Generator 10% Atmospheric Dump Valves Operability. Revise surveillance frequency from once per 18 months to once each refueling interval.

Justification for the Change: The SG 10% atmospheric dump valves (ADV) serve as containment isolation valves and allow cooldown of the primary plant following either a Hosgri earthquake or a steam generator tube rupture (SGTR) accident concurrent with loss of offsite power. The design basis requirements for the ADVs are that they fail closed upon loss of air and are capable of manual operation. To meet the manual operation requirement, the ADVs are equipped with Class 1E seismically qualified backup air supplies (air bottles) with instrument Class 1E controls and power circuits providing manual remote control from the control room. There are two 2200 psig backup air bottles for each ADV which must contain sufficient air pressure to operate the valves ten cycles over a six-hour duration. A backup air bottle minimum pressure of 260 psig provides adequate air to perform the operations assumed in the analysis. This pressure is verified daily during operator rounds. The surveillance verifies that with normal nitrogen and air systems unavailable, the integrity of the backup air system is maintained when the backup system is placed in service. This includes a leak rate test and the ADVs are cycled ten times using the remote manual control switches in the control room. The ADVs are tested quarterly in accordance with TS 4.0.5 and for containment isolation. The ADV block valves are verified open monthly. The dedicated backup air solenoids and remote control switches are the only portions of the ADV backup air system not functionally tested at power. The solenoids are de-energized and therefore do not experience accelerated aging. The control switches are the same as others installed in the plant and have demonstrated satisfactory performance. The licensee stated that a review of the surveillance, maintenance and operating history indicated that there are no time-dependent failures or problems with the backup air supply system. The NRC staff finds the licensee's conclusions for the proposed change acceptable.

3.15 Plant Systems, Vital Component Cooling Water System

Proposed TS change: TS 4.7.3.1.c, Plant Systems, Vital Component Cooling Water System, Pump Starts. Add a new surveillance requirement to read, "At least once each Refueling Interval, by verifying that each component cooling water pumps starts automatically on an actual or simulated actuation signal."

Justification for the Change: The componenent cooling water (CCW) system provides a heat sink for the removal of process and operating heat from safety-related components during and following a design basis accident (DBA) or transient. During normal operation the CCW system also provides this function for various nonessential components, as well as the spent fuel pool. The CCW system consists of three pumps which are powered from three independent vital 4 kV busses that supply two heat exchangers, which feed into three separate loops. Two of these loops serve vital loads and are designed to provide adequate cooling for the safe shutdown of the plant after a DBA. The third loop serves non-vital componenents. When a SI signal is generated an actuation signal is sent to the ESF equipment, which includes the CCW pumps. For the purpose of satisfying the proposed TS, the actuation signal may be either an actual or simulated SI signal. The CCW pumps also receive start signals when no SI signal is present on bus transfer to diesel generator. The standby CCW pump receives a start signal on low pressure in the CCW heat exchanger discharge header. The current TS 3.7.3.1 requires at least two vital CCW loops operable in Modes 1 through 4. The action statement allows operation of one vital loop for up to 72 hours. PG&E has determined that all three CCW pumps must be operable to satisfy the limiting condition of operation. Any two of the pumps must be operable to satisfy the action statement. There is no specific TS-required surveillance for the CCW pumps to start on receipt of an automatic actuation signal. The automatic start on SI of the CCW pumps has been assured by routine performance of quarterly and refueling frequency tests. The circuitry operability is tested by other TSs and the pumps are tested quarterly by TS 4.0.5 and the IST program. The licensee stated that a review of maintenance, surveillance and operational history indicated that no time-dependent failures or problems with the CCW pumps. The NRC staff finds that the addition of this TS on a refueling outage interval is acceptable.

3.16 Plant Systems, Auxiliary Saltwater System

Proposed TS change: TS 4.7.4.2, Plant Systems, Auxiliary Saltwater System, Pump Starts. Add a new surveillance requirement to read, "Each auxiliary saltwater pump shall be demonstrated OPERABLE at least once each Refueling Interval by verifying that each pump starts automatically on an actual or simulate actuation signal."

Justification for the Change: The auxiliary saltwater (ASW) system provides a heat sink for the removal of process and operating heat from safety-related components during and following a DBA or transient. During normal operation, the ASW system also provides this function for various safety-related and nonsafety-related components. The ASW system consists of two separate, 100 percent capacity, safety-related trains. Each train is composed of one pump, which takes its suction from a dedicated bay in the intake structure, and one heat exchanger. During normal operation, one train is in service and the other pump is shutdown and in standby. When a SI signal is generated an actuation signal is sent to the ESF equipment, which includes the ASW pumps. For the purpose of satisfying the proposed TS, the actuation signal may be either an actual or simulated SI signal. The ASW pumps also receive start signals when no SI signal is present on bus transfer to diesel generator. The ASW pumps receive a start signal on low discharge header pressure and low voltage on the operating pump's vital bus. The current TS 3.7.4 requires at least two ASW trains operable in Modes 1 through 4. The action statement allows operation of one train for up to 72 hours. There is no specific TS-required surveillance for the ASW pumps to start on receipt of an automatic actuation signal. The automatic start on SI of the ASW pumps has been assured by routine performance of quarterly and refueling frequency tests. The circuitry operability is tested by other TSs and the pumps are tested quarterly by TS 4.0.5 and the IST program. The licensee stated that a review of maintenance, surveillance and operational history indicated that no time-dependent failures or problems with the ASW pumps. The NRC staff has reviewed the licensee's evaluation and finds that the addition of this TS and on a refueling outage interval is 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 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 (61 FR 31183). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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