

June 21, 2000

Mr. Gregory M. Rueger
Senior Vice President and General Manager
Pacific Gas and Electric Company
Diablo Canyon Nuclear Power Plant
P. O. Box 3
Avila Beach, CA 94177

SUBJECT: ISSUANCE OF AMENDMENTS - DIABLO CANYON NUCLEAR POWER PLANT
(DCNPP) UNIT NO. 1 (TAC NO. MA8518) AND UNIT NO. 2 (TAC NO. MA8519)

Dear Mr. Rueger:

The Commission has issued the enclosed Amendment No. 142 to Facility Operating License No. DPR-80 and Amendment No. 142 to Facility Operating License No. DPR-82 for the DCNPP, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Improved Technical Specifications (ITS) in response to your application dated March 16, 2000, as supplemented by letters dated April 11, April 19, June 2, and June 9, 2000.

The amendments correct 19 typographical errors based upon errors in the certified copy of the ITS that was submitted by your letter dated May 19, 1999, and revised by your letter dated May 27, 1999, as well as an editorial change to a title applicable at the time the ITS was issued. The amendments also make 10 corrections to the conversion application and its associated supplements.

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

Sincerely,

/RA/

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

Docket Nos. 50-275
and 50-323

Enclosures: 1. Amendment No. 142 to DPR-80
2. Amendment No. 142 to DPR-82
3. Safety Evaluation

cc w/encls: See next page

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ACCESSION NUMBER: ML00

*See previous concurrence

OFFICE	PDIV-2/PM	PDIV-D/LA	RTSB/BC*	OGC	PDIV-2/SC
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Diablo Canyon Power Plant, Units 1 and 2

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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. 142
License No. DPR-80

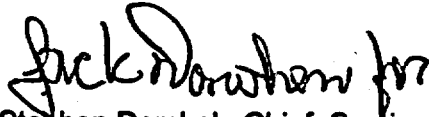
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Pacific Gas and Electric Company (the licensee) dated March 16, 2000, as supplemented by letters dated April 11, April 19, June 2, and June 9, 2000, complies with the standards and requirements 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. 142 , are hereby incorporated in the license. Pacific Gas and Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of its date of issuance and shall be implemented by June 30, 2000.

FOR THE NUCLEAR REGULATORY COMMISSION



Stephen Dembek, Chief, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: June 21, 2000



**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. 142
License No. DPR-82**

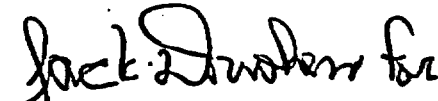
- 1. The Nuclear Regulatory Commission (the Commission) has found that:**
 - A. The application for amendment by Pacific Gas and Electric Company (the licensee) dated March 16, 2000, as supplemented by letters dated April 11, April 19, June 2, and June 9, 2000, complies with the standards and requirements 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. 142 , are hereby incorporated in the license. Pacific Gas and Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan, except where otherwise stated in specific license conditions.

3. This license amendment is effective as of its date of issuance and shall be implemented by June 30, 2000.

FOR THE NUCLEAR REGULATORY COMMISSION



Stephen Dembek, Chief, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: June 21, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 142

TO FACILITY OPERATING LICENSE NO. DPR-80

AND AMENDMENT NO. 142 TO FACILITY OPERATING LICENSE NO. DPR-82

DOCKET NOS. 50-275 AND 50-323

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

INSERT

1.2-2	1.2-2
2.0-2	2.0-2
3.1-6	3.1-6
3.2-5	3.2-5
3.3-1	3.3-1
3.3-3	3.3-3
3.3-12	3.3-12
3.3-13	3.3-13
3.3-14	3.3-14
3.3-15	3.3-15
3.3-16	3.3-16
3.3-17	3.3-17
3.3-18	3.3-18
3.3-24	3.3-24
3.3-29	3.3-29
3.3-36	3.3-36
3.3-41	3.3-41
3.4-11	3.4-11
3.4-27	3.4-27
3.4-30	3.4-30
3.4-31	3.4-31
3.7-2	3.7-2
3.7-19	3.7-19
3.7-24	3.7-24
5.0-1	5.0-1
5.0-12	5.0-12
5.0-16	5.0-16
5.0-20	5.0-20
5.0-21	5.0-21
5.0-32	5.0-32

1.2 Logical Connectors

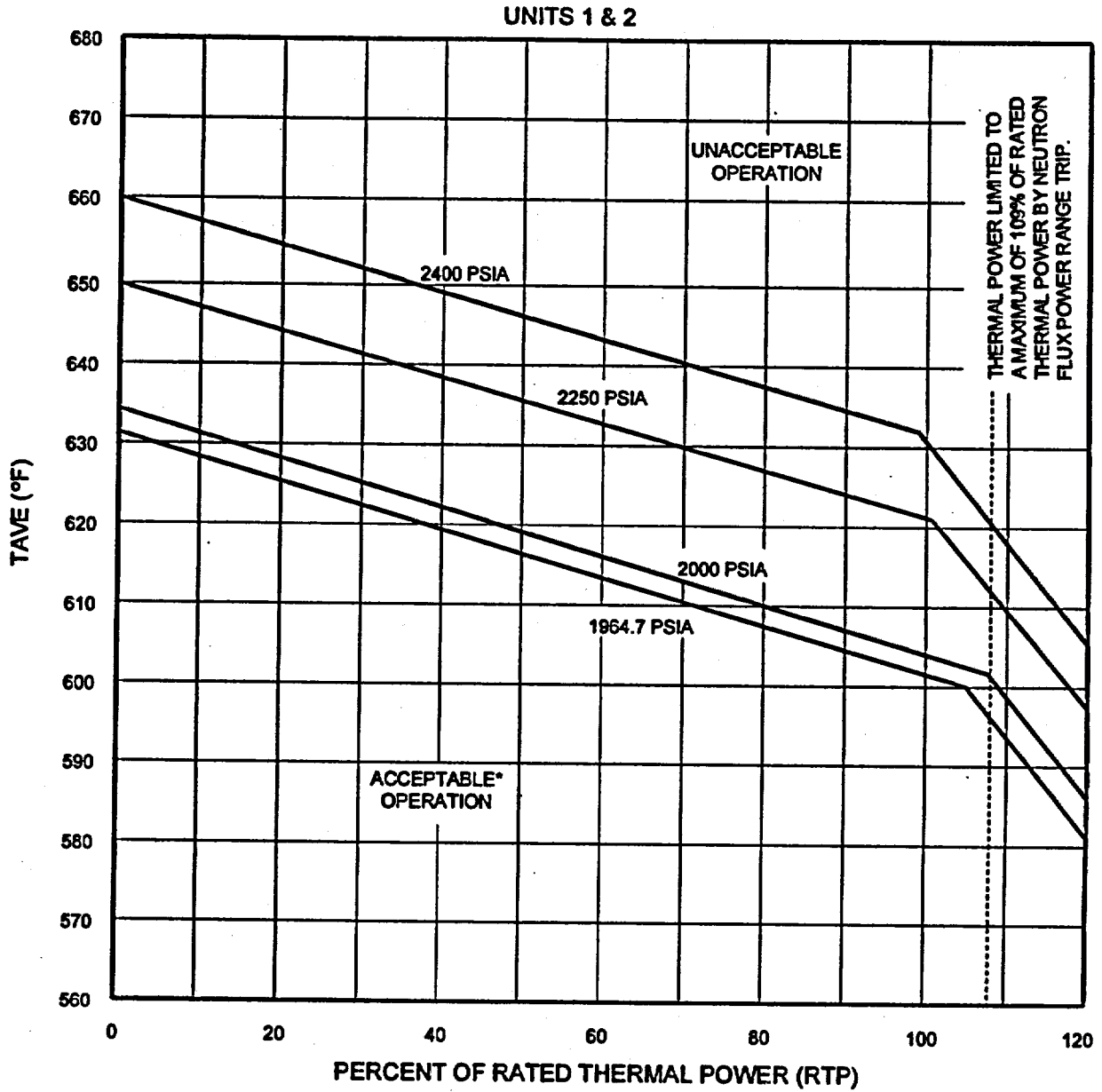
EXAMPLES
(continued)

EXAMPLE 1.2-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Trip ... <u>OR</u> A.2.1 Verify ... <u>AND</u> A.2.2.1 Reduce ... <u>OR</u> A.2.2.2 Perform ... <u>OR</u> A.3 Align	

This example represents a more complicated use of logical connectors. Required Actions A.1, A.2, and A.3 are alternative choices, only one of which must be performed as indicated by the use of the logical connector OR and the left justified placement. Any one of these three Actions may be chosen. If A.2 is chosen, then both A.2.1 and A.2.2 must be performed as indicated by the logical connector AND. Required Action A.2.2 is met by performing A.2.2.1 or A.2.2.2. The indented position of the logical connector OR indicates that A.2.2.1 and A.2.2.2 are alternative choices, only one of which must be performed.



***WHEN OPERATING IN THE REDUCED RTP REGION OF TECHNICAL SPECIFICATION LCO 3.4.1 (TABLE 3.4.1-1 FOR UNIT 1 AND TABLE 3.4.1-2 FOR UNIT 2) THE RESTRICTED POWER LEVEL MUST BE CONSIDERED 100% RTP FOR THIS FIGURE.**

Figure 2.1.1-1

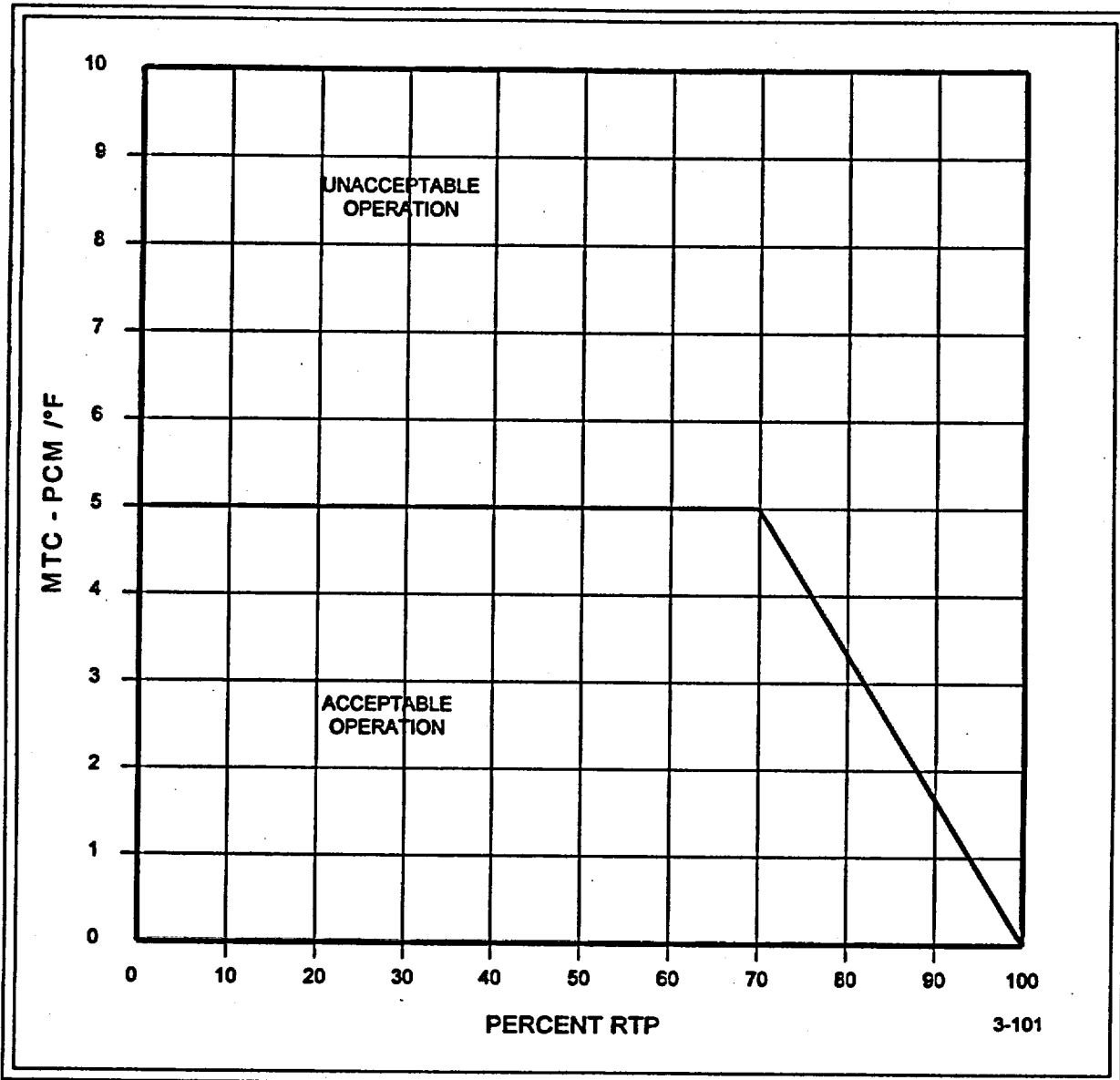


Figure 3.1.3-1 (page 1 of 1)

MODERATOR TEMPERATURE COEFFICIENT vs. POWER LEVEL

3.2 POWER DISTRIBUTION LIMITS

3.2.2 Nuclear Enthalpy Rise Hot Channel Factor ($F_{\Delta H}^N$)

LCO 3.2.2 $F_{\Delta H}^N$ shall be within the limits specified in the COLR.

APPLICABILITY: MODE 1.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. <u>NOTE</u> Required Actions A.2 and A.3 must be completed whenever Condition A is entered.</p> <hr/> <p>$F_{\Delta H}^N$ not within limit.</p>	<p>A.1.1 Restore $F_{\Delta H}^N$ within limit.</p> <p style="text-align: center;"><u>OR</u></p> <p>A.1.2.1 Reduce THERMAL POWER to < 50% RTP.</p> <p style="text-align: center;"><u>AND</u></p> <p>A.1.2.2 Reduce Power Range Neutron Flux-High trip setpoints to \leq 55% RTP.</p> <p style="text-align: center;"><u>AND</u></p> <p>A.2 Perform SR 3.2.2.1.</p> <p style="text-align: center;"><u>AND</u></p>	<p>4 hours</p> <p>4 hours</p> <p>72 hours</p> <p>24 hours</p> <p style="text-align: right;">(continued)</p>

3.3 INSTRUMENTATION

3.3.1 Reactor Trip System (RTS) Instrumentation

LCO 3.3.1 The RTS instrumentation for each Function in Table 3.3.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.1-1.

ACTIONS

NOTE

Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one or more required channels or trains inoperable.	A.1 Enter the Condition referenced in Table 3.3.1-1 for the channel(s) or trains.	Immediately
B. One Manual Reactor Trip channel inoperable.	B.1 Restore channel to OPERABLE status.	48 hours
	<u>OR</u> B.2 Be in MODE 3.	54 hours
<p>NOTE</p> <p>While this LCO is not met for function 19, 20 or 21, in MODE 5, making the Rod Control System capable of rod withdrawal is not permitted.</p>		
C. One channel or train inoperable.	C.1 Restore channel or train to OPERABLE status.	48 hours
	<u>OR</u> C.2.1 Initiate action to fully insert all rods.	48 hours
		(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME	
E. One channel inoperable.	<p style="text-align: center;">NOTE</p> <p>The inoperable channel, or one additional channel for functions 6, 7, and 8.b may be bypassed for up to 4 hours for surveillance testing of other channels. For functions 2.b, 3.a, 3.b, and 14.a only the inoperable channel may be bypassed for surveillance testing of other channels.</p>		
	E.1 Place channel in trip.		6 hours
	<u>OR</u> E.2 Be in MODE 3.		12 hours
F. One Intermediate Range Neutron Flux channel inoperable.	F.1 Reduce THERMAL POWER to < P-6. <u>OR</u>	24 hours	
	F.2 Increase THERMAL POWER to > P-10.	24 hours	
G. Two Intermediate Range Neutron Flux channels inoperable.	G.1 Suspend operations involving positive reactivity additions. <u>AND</u>	Immediately	
	G.2 Reduce THERMAL POWER to < P-6.	2 hours	
H. Not used			
I. One Source Range Neutron Flux channel inoperable.	I.1 Suspend operations involving positive reactivity additions.	Immediately	
J. Two Source Range Neutron Flux channels inoperable.	J.1 Open reactor trip breakers (RTBs).	Immediately	

(continued)

Table 3.3.1-1 (page 1 of 7)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL ^(a) TRIP SETPOINT
1. Manual Reactor Trip	1,2	2	B	SR 3.3.1.14	NA	NA
	3 ^(b) , 4 ^(b) , 5 ^(b)	2	C	SR 3.3.1.14	NA	NA
2. Power Range Neutron Flux						
a. High	1,2	4	D	SR 3.3.1.1 SR 3.3.1.2 SR 3.3.1.7 SR 3.3.1.11 SR 3.3.1.16	≤ 110.2% RTP	109% RTP
b. Low	1 ^(c) ,2	4	E	SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11 SR 3.3.1.16	≤ 26.2% RTP	25% RTP
3. Power Range Neutron Flux Rate						
a. High Positive Rate	1,2	4	E	SR 3.3.1.7 SR 3.3.1.11	≤ 5.6% RTP with time constant ≥ 2 sec	5% RTP with time constant ≥ 2 sec
b. High Negative Rate	1,2	4	E	SR 3.3.1.7 SR 3.3.1.11 SR 3.3.1.16	≤ 5.6% RTP with time constant ≥ 2 sec	5% RTP with time constant ≥ 2 sec
4. Intermediate Range Neutron Flux	1 ^(c) , 2 ^(d)	2	F,G	SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11	≤ 30.6% RTP	25% RTP

(continued)

- (a) A channel is OPERABLE with an actual Trip Setpoint value outside its calibration tolerance band provided the Trip Setpoint value is conservative with respect to its associated Allowable Value and the channel is re-adjusted to within the established calibration tolerance band of the Nominal Trip Setpoint. A Trip Setpoint may be set more conservative than the Nominal Trip Setpoint as necessary in response to plant conditions.
- (b) With Rod Control System capable of rod withdrawal or one or more rods not fully inserted.
- (c) Below the P-10 (Power Range Neutron Flux) interlocks.
- (d) Above the P-6 (Intermediate Range Neutron Flux) interlocks.

Table 3.3.1-1 (page 2 of 7)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL ^(a) TRIP SETPOINT
5. Source Range Neutron Flux	2 ^(e)	2	I,J	SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11 SR 3.3.1.16	≤ 1.4 E5 cps	1.0 E5 cps
	3 ^(f) , 4 ^(f) , 5 ^(f)	2	J,K	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.11 SR 3.3.1.16	≤ 1.4 E5 cps	1.0 E5 cps
	3 ^(f) , 4 ^(f) , 5 ^(f)	1	L	SR 3.3.1.1 SR 3.3.1.11	N/A	N/A
6. Overtemperature ΔT	1,2	4	E	SR 3.3.1.1 SR 3.3.1.3 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	Refer to Note 1 (Page 3.3-17)	Refer to Note 1 (Page 3.3-17)
7. Overpower ΔT	1,2	4	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	Refer to Note 2 (Page 3.3-18)	Refer to Note 2 (Page 3.3-18)
8. Pressurizer Pressure						
a. Low	1 ^(g)	4	M	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	≥ 1947.5 psig	1950 psig
b. High	1,2	4	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	≤ 2387.5 psig	2385 psig
9. Pressurizer Water Level—High	1 ^(g)	3	M	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	≤ 90.2%	90%

(continued)

- (a) A channel is OPERABLE with an actual Trip Setpoint value outside its calibration tolerance band provided the Trip Setpoint value is conservative with respect to its associated Allowable Value and the channel is re-adjusted to within the established calibration tolerance band of the Nominal Trip Setpoint. A Trip Setpoint may be set more conservative than the Nominal Trip Setpoint as necessary in response to plant conditions.
- (b) With Rod Control System capable of rod withdrawal or one or more rods not fully inserted.
- (e) Below the P-6 (Intermediate Range Neutron Flux) interlocks.
- (f) With the RTBs open or all rods fully inserted and incapable of withdrawal. In this condition, source range Function does not provide reactor trip but does provide indication.
- (g) Above the P-7 (Low Power Reactor Trips Block) interlock.

Table 3.3.1-1 (page 3 of 7)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL ^(a) TRIP SETPOINT
10. Reactor Coolant Flow—Low	1 ^(a)	3 per loop	M	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	≥ 89.8% ^(b) of MMF/ loop	90% ^(b) of MMF/loop
11. Reactor Coolant Pump (RCP) Breaker Position	1 ^(a)	1 per RCP	M	SR 3.3.1.14	NA	NA
12. Undervoltage RCPs	1 ^(a)	2 per bus	M	SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.16	≥ 7877 V each bus	8050 V each bus
13. Underfrequency RCPs	1 ^(a)	3 per bus	M	SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.16	≥ 53.9 Hz each bus	54.0 Hz each bus
14. a. Steam Generator (SG) Water Level—Low Low	1,2	3 per SG	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	≥ 7.0%	7.2%
b. SG Water Level - Low Low Trip Time Delay (TTD)	1,2	4	X	SR 3.3.1.7 SR 3.3.1.10	TTD ≤ 1.01 TD (Note 3) for RCS loop ΔT variable input ≤ 50.7% RTP and TTD=0 for RCS loop ΔT variable input > 50.7 % RTP	TTD ≤ TD (Note 3) for RCS loop ΔT variable input 50% RTP TTD=0 for RCS loop ΔT variable input 50% RTP
15. Not used						

(continued)

- (a) A channel is OPERABLE with an actual Trip Setpoint value outside its calibration tolerance band provided the Trip Setpoint value is conservative with respect to its associated Allowable Value and the channel is re-adjusted to within the established calibration tolerance band of the Nominal Trip Setpoint. A Trip Setpoint may be set more conservative than the Nominal Trip Setpoint as necessary in response to plant conditions.
- (g) Above the P-7 (Low Power Reactor Trips Block) interlock.
- (l) Minimum measured flow (MMF) is 89,800 gpm per loop for Unit 1 and 90,625 gpm per loop for Unit 2.

Table 3.3.1-1 (page 4 of 7)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL ^(a) TRIP SETPOINT
16. Turbine Trip						
a. Low Auto-Stop Oil Pressure	1 ⁽ⁱ⁾	3	O	SR 3.3.1.10 SR 3.3.1.15	≥ 46.5 psig	50 psig
b. Turbine Stop Valve Closure	1 ⁽ⁱ⁾	4	P	SR 3.3.1.10 SR 3.3.1.15	≥ 1% open	1% open
17. Safety Injection (SI) Input from Engineered Safety Feature Actuation System (ESFAS)						
	1,2	2 trains	Q	SR 3.3.1.14	NA	NA
18. Reactor Trip System Interlocks						
a. Intermediate Range Neutron Flux, P-6	2 ^(e)	2	S	SR 3.3.1.11 SR 3.3.1.13	≥ 8E-11 amp	1E-10 amp
b. Low Power Reactor Trips Block, P-7	1	1 per train	T	SR 3.3.1.5	NA	NA
c. Power Range Neutron Flux, P-8	1	4	T	SR 3.3.1.11 SR 3.3.1.13	≤ 36.2% RTP	35% RTP

(continued)

- (a) A channel is OPERABLE with an actual Trip Setpoint value outside its calibration tolerance band provided the Trip Setpoint value is conservative with respect to its associated Allowable Value and the channel is re-adjusted to within the established calibration tolerance band of the Nominal Trip Setpoint. A Trip Setpoint may be set more conservative than the Nominal Trip Setpoint as necessary in response to plant conditions.
- (e) Below the P-6 (Intermediate Range Neutron Flux) interlocks.
- (i) Above the P-9 (Power Range Neutron Flux) interlock.

Table 3.3.1-1 (page 5 of 7)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL ^(a) TRIP SETPOINT
18. Reactor Trip System Interlocks (cont)						
d. Power Range Neutron Flux, P-9	1	4	T	SR 3.3.1.11 SR 3.3.1.13	≤ 51.2% RTP	50% RTP
e. Power Range Neutron Flux, P-10	1,2	4	S	SR 3.3.1.11 SR 3.3.1.13	≥ 8.8% RTP and ≤ 11.2% RTP	10% RTP
f. Turbine Impulse Chamber Pressure, P-13	1	2	T	SR 3.3.1.10 SR 3.3.1.13	≤ 10.2% RTP turbine impulse pressure equivalent	10% RTP turbine impulse pressure equivalent
19. Reactor Trip Breakers ^(k) (RTBs)						
	1,2	2 trains	R	SR 3.3.1.4	NA	NA
	3 ^(b) , 4 ^(b) , 5 ^(b)	2 trains	C	SR 3.3.1.4	NA	NA
20. Reactor Trip Breaker Undervoltage and Shunt Trip Mechanisms ^(k)						
	1,2	1 each per RTB	U	SR 3.3.1.4	NA	NA
	3 ^(b) , 4 ^(b) , 5 ^(b)	1 each per RTB	C	SR 3.3.1.4	NA	NA
21. Automatic Trip Logic						
	1,2	2 trains	Q	SR 3.3.1.5	NA	NA
	3 ^(b) , 4 ^(b) , 5 ^(b)	2 trains	C	SR 3.3.1.5	NA	NA
22. Seismic Trip						
	1,2	3 directions (x,y,z) in 3 locations	W	SR 3.3.1.5 SR 3.3.1.12 SR 3.3.1.14	≤ 0.43g	0.35g

- (a) A channel is OPERABLE with an actual Trip Setpoint value outside its calibration tolerance band provided the Trip Setpoint value is conservative with respect to its associated Allowable Value and the channel is re-adjusted to within the established calibration tolerance band of the Nominal Trip Setpoint. A Trip Setpoint may be set more conservative than the Nominal Trip Setpoint as necessary in response to plant conditions.
- (b) With Rod Control System capable of rod withdrawal or one or more rods not fully inserted.
- (k) Including any reactor trip bypass breakers that are racked in and closed for bypassing an RTB.

Table 3.3.1-1 (page 6 of 7)
Reactor Trip System Instrumentation

Note 1: Overtemperature ΔT

The Overtemperature ΔT Function Allowable Value shall not exceed the following Trip Setpoint by more than 0.46% of ΔT span for hot leg or cold leg temperature inputs, 0.14% ΔT span for pressurizer pressure input, 0.19% ΔT span for ΔI inputs.

$$\Delta T \frac{(1+\tau_4 s)}{(1+\tau_5 s)} \leq \Delta T_0 \left\{ K_1 - K_2 \frac{(1+\tau_1 s)}{(1+\tau_2 s)} [T - T'] + K_3 (P - P') - f_1(\Delta I) \right\}$$

Where: ΔT is measured RCS ΔT , °F.

ΔT_0 is the loop specific indicated ΔT at RTP, °F.

s is the Laplace transform operator, sec⁻¹.

T is the measured RCS average temperature, °F.

T' is the nominal loop specific indicated T_{avg} at RTP, ≤ 576.6 (Unit 1) & 577.6 (Unit 2) °F.

P is the measured pressurizer pressure, psig

P' is the nominal RCS operating pressure, = 2235 psig

$$K_1 = 1.20 \quad K_2 = 0.0182/^\circ\text{F} \quad K_3 = 0.000831/\text{psig}$$

$$\tau_1 = 30 \text{ sec} \quad \tau_2 = 4 \text{ sec}$$

$$\tau_4 = 0 \text{ sec} \quad \tau_5 = 0 \text{ sec}$$

$$f_1(\Delta I) = \begin{cases} -0.0275\{19 + (q_t - q_b)\} & \text{when } q_t - q_b \leq -19\% \text{ RTP} \\ 0\% \text{ of RTP} & \text{when } -19\% \text{ RTP} < q_t - q_b \leq 7\% \text{ RTP} \\ 0.0238\{(q_t - q_b) - 7\} & \text{when } q_t - q_b > 7\% \text{ RTP} \end{cases}$$

Where q_t and q_b are percent RTP in the upper and lower halves of the core, respectively, and $q_t + q_b$ is the total THERMAL POWER in percent RTP.

Table 3.3.1-1 (page 7 of 7)
Reactor Trip System Instrumentation

Note 2: Overpower ΔT

The Overpower ΔT Function Allowable Value shall not exceed the following Trip Setpoint by more than 0.46% of ΔT span for hot leg or cold leg temperature inputs.

$$\Delta T \frac{(1+\tau_4 s)}{(1+\tau_5 s)} \leq \Delta T^0 \left\{ K_4 - K_5 \frac{\tau_3 s}{1+\tau_3 s} T - K_6 [T - T'] - f_2(\Delta I) \right\}$$

Where: ΔT is measured RCS ΔT, °F.

ΔT₀ is the loop specific indicated ΔT at RTP, °F.

s is the Laplace transform operator, sec⁻¹.

T is the measured RCS average temperature, °F.

T' is the nominal loop specific indicated T_{avg} at RTP, ≤ 576.6 (Unit 1) & 577.6 (Unit 2) °F.

K₄ = 1.072 K₅ = 0.0174/°F for increasing T_{avg} K₆ = 0.00145/°F when T > T' 0/°F when T ≤ T'

τ₃ = 10 sec τ₄ = 0 sec τ₅ = 0 sec

f₂(ΔI) = 0% RTP for all ΔI.

Note 3: Steam Generator Water-Level Low Low Time Delay

The Steam Generator Water Level-Low Low time delay function power allowable value shall not exceed the following trip setpoint power by more than 0.7% RTP.

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

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

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

$$B1 = -0.007128 \text{ sec}/(\text{RTP})^3$$

$$B2 = +0.8099 \text{ sec}/(\text{RTP})^2$$

$$B3 = -31.40 \text{ sec}/(\text{RTP})$$

$$B4 = +464.1 \text{ sec}$$

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>N. One channel inoperable.</p>	<p>N.1 Restore channel to OPERABLE status.</p>	<p>48 hours</p>
	<p><u>OR</u> N.2 Declare the associated AFW pump or MSIV inoperable.</p>	<p>Immediately</p>
<p>O. One channel inoperable</p>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels.</p>	
	<p>O.1 Place channel in trip.</p>	<p>6 hours</p>
	<p><u>OR</u> O.2.1 Be in MODE 3</p>	<p>12 hours</p>
	<p><u>AND</u> O.2.2 Be in MODE 5.</p>	<p>42 hours</p>
<p>P. One channel inoperable.</p>	<p>-----NOTE----- One additional channel may be bypassed for up to 4 hours for surveillance testing.</p>	
	<p>P.1 Place channel in bypass.</p>	<p>6 hours</p>
	<p><u>OR</u> P.2.1 Be in MODE 3</p>	<p>12 hours</p>
	<p><u>AND</u> P.2.2 Be in MODE 5.</p>	<p>42 hours</p>

Table 3.3.2-1 (page 3 of 7)
Engineered Safety feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL ^(a) TRIP SETPOINT
3. Containment Isolation (continued)						
b. Phase B Isolation						
(1) Manual Initiation	1,2,3,4	2 per train	B	SR 3.3.2.8	NA	NA
(2) Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.6	NA	NA
(3) Containment Pressure High-High	1,2,3,4	4	P	SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9	≤ 22.12 psig	22 psig
4. Steam Line Isolation						
a. Manual Initiation	1,2 ⁽ⁱ⁾ ,3 ⁽ⁱ⁾	1/valve	N	SR 3.3.2.8	NA	NA
b. Automatic Actuation Logic and Actuation Relays	1,2 ⁽ⁱ⁾ ,3 ⁽ⁱ⁾	2 trains	G	SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.6	NA	NA
c. Containment Pressure-High -High	1,2 ⁽ⁱ⁾ ,3 ⁽ⁱ⁾	4	E	SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10	≤ 22.12 psig	22.0 psig

(continued)

- (a) A channel is OPERABLE with an actual Trip Setpoint value outside its calibration tolerance band provided the Trip Setpoint value is conservative with respect to its associated Allowable Value and the channel is re-adjusted to within the established calibration tolerance band of the Nominal Trip Setpoint. A Trip Setpoint may be set more conservative than the Nominal Trip Setpoint as necessary in response to plant conditions.
- (i) Except when all MSIVs are closed and de-activated.

SURVEILLANCE REQUIREMENTS

NOTE

SR 3.3.3.1 and SR 3.3.3.2 apply to each PAM instrumentation Function in Table 3.3.3-1.

SURVEILLANCE		FREQUENCY
SR 3.3.3.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days
SR 3.3.3.2	<p>NOTE</p> <p>Neutron detectors are excluded from CHANNEL CALIBRATION.</p> <hr/> <p>Perform CHANNEL CALIBRATION.</p>	24 months
SR 3.3.3.3	Perform CHANNEL CALIBRATION for Hydrogen Monitors	92 days

3.3 INSTRUMENTATION

3.3.5 Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation

LCO 3.3.5 One channel per bus of loss of voltage DG start Function; and two channels per bus of degraded voltage Function shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4,
When associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources-Shutdown."

ACTIONS

NOTE

Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one or more channels per bus inoperable.	A.1 NOTE One channel may be bypassed for up to 2 hours for surveillance testing. Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	Not used	
SR 3.3.5.2	Perform TADOT.	18 months
SR 3.3.5.3	Perform CHANNEL CALIBRATION with Allowable Value setpoints as follows: a. Loss of voltage Diesel Start Allowable Value ≥ 0 V with a time delay of ≤ 0.8 seconds and ≥ 2583 V with a ≤ 10 second time delay. Loss of voltage initiation of load shed with one relay Allowable Value ≥ 0 V with a time delay of ≤ 4 seconds and ≥ 2583 V with a time delay ≤ 25 seconds and with one relay Allowable Value ≥ 2870 V, instantaneous.	18 months

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Two required loops inoperable. <u>OR</u>	B.1 Suspend all operations involving a reduction of RCS boron concentration.	Immediately
No RCS or RHR loop in operation.	<u>AND</u> B.2 Initiate action to restore one loop to OPERABLE status and operation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.6.1	Verify one RHR or RCS loop is in operation.	12 hours
SR 3.4.6.2	Verify SG secondary side water levels are $\geq 15\%$ for required RCS loops.	12 hours
SR 3.4.6.3	Verify correct breaker alignment and indicated power are available to the required pump that is not in operation.	7 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.13 RCS Operational LEAKAGE

LCO 3.4.13 RCS operational LEAKAGE shall be limited to:

- a. No pressure boundary LEAKAGE;
- b. 1 gpm unidentified LEAKAGE;
- c. 10 gpm identified LEAKAGE;
- d. 150 gallons per day primary to secondary LEAKAGE through any one SG.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. RCS LEAKAGE not within limits for reasons other than pressure boundary LEAKAGE.	A.1 Reduce LEAKAGE to within limits.	4 hours
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Pressure boundary LEAKAGE exists.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 36 hours

* For MODES 3 and 4, if steam generator water samples indicate less than the minimum detectable activity of 5.0 E-7 microcuries/ml for principal gamma emitters, the leakage requirement of specification 3.4.13.d. may be considered met.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.1 Isolate the high pressure portion of the affected system from the low pressure portion by use of a second closed manual, deactivated automatic, or check valve. <u>OR</u>	72 hours
	A.2.2 Restore RCS PIV to within limits.	72 hours
B. Required Action and associated Completion Time for Condition A not met.	B.1 Be in MODE 3. <u>AND</u>	6 hours
	B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.14.1</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Not required to be performed in MODES 3 and 4. 2. Not required to be performed on the RCS PIVs located in the RHR flow path when in the shutdown cooling mode of operation. 3. RCS PIVs actuated during the performance of this Surveillance are not required to be tested more than once if a repetitive testing loop cannot be avoided. <hr/> <p>Verify leakage from each RCS PIV is equivalent to ≤ 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm at an RCS pressure ≥ 2215 psig and ≤ 2255 psig.</p>	<p>In accordance with the Inservice Testing Program, and 24 months</p> <p><u>AND</u></p> <p>(continued)</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.14.1 (continued)	Within 24 hours following valve actuation due to automatic or manual action or flow through the valve except for valves 8701, 8702, 8802A, 8802B, and 8703
SR 3.4.14.2 Not used	
SR 3.4.14.3 Not used	

Table 3.7.1-1 (page 1 of 1)
Maximum Allowable Power Range Neutron Flux High Setpoint With Inoperable MSSVs

MINIMUM NUMBER OF MSSVs PER STEAM GENERATOR REQUIRED OPERABLE	MAXIMUM ALLOWABLE POWER RANGE NEUTRON FLUX HIGH SETPOINT %RTP
4	87*
3	47*
2	29*

* Unless the reactor trip system breakers are in the open position.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two CRVS trains inoperable in MODE 5 OR 6, or during movement of irradiated fuel assemblies.	D.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u> D.2 Suspend movement of irradiated fuel assemblies.	Immediately
E. Two CRVS trains inoperable in MODE 1, 2, 3, or 4.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Operate each CRVS train for ≥ 10 continuous hours with the heaters operating.	31 days
SR 3.7.10.2	Verify that each CRVS redundant fan is aligned to receive electrical power from a separate OPERABLE vital bus.	31 days
SR 3.7.10.3	Perform required CRVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.10.4	Verify each CRVS train automatically switches into the pressurization mode of operation on an actual or simulated actuation signal.	24 months
SR 3.7.10.5	Verify one CRVS train can maintain a positive pressure of ≥ 0.125 inches water gauge, relative to the outside atmosphere during the pressurization mode of operation.	24 months on a STAGGERED TEST BASIS

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.13.1	Operate each FHBVS train for ≥ 15 minutes.	31 days
SR 3.7.13.2	Perform required FHBVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.13.3	Verify each FHBVS train actuates on an actual or simulated actuation signal.	24 months
SR 3.7.13.4	Verify one FHBVS train can maintain a pressure ≤ -0.125 inches water gauge with respect to atmospheric pressure during the post accident mode of operation.	24 months on a STAGGERED TEST BASIS
SR 3.7.13.5	Verify damper M-29 can be closed.	24 months

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

- 5.1.1 The Vice President, Diablo Canyon Operations and Plant Manager, hereafter called Plant Manager, shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

The Plant Manager or his designee, hereafter called Plant Manager, shall approve, prior to implementation, each proposed test, experiment, or modification to systems or equipment that affect nuclear safety.

- 5.1.2 The Shift Foreman (SFM) shall be responsible for the control room command function. During any absence of the SFM from the control room while the unit is in MODE 1, 2, 3, or 4, an individual with an active Senior Reactor Operator (SRO) license shall be designated to assume the control room command function. During any absence of the SFM from the control room while the unit is in MODE 5 or 6, an individual with an active SRO license or Reactor Operator license shall be designated to assume the control room command function.
-

5.5 Programs and Manuals

5.5.9 Steam Generator (SG) Tube Surveillance Program (continued)

2. If the results of the inservice inspection of a SG conducted in accordance with Table 5.5.9-2 at 40 month intervals fall in Category C-3, the inspection frequency shall be increased to at least once per 20 months. The increase in inspection frequency shall apply until the subsequent inspections satisfy the criteria of Specification 5.5.9.c.1. The interval may then be extended to a maximum of once per 40 months; and
 3. Additional, unscheduled inservice inspections shall be performed on each SG in accordance with the first sample inspection specified in Table 5.5.9-2 during the shutdown subsequent to any of the following conditions:
 - a) Reactor-to-secondary tube leaks (not including leaks originating from tube-to-tube sheet welds) in excess of the limits of Specification 3.4.13; or
 - b) A seismic occurrence greater than the Double Design Earthquake, or
 - c) A loss-of-coolant accident requiring actuation of the Engineered Safety Features, or
 - d) A main steam line or feedwater line break.
- d. Acceptance Criteria
1. As used in this Specification:
 - a) Imperfection means an exception to the dimensions, finish or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections;
 - b) Degradation means a service-induced cracking, wastage, wear or general corrosion occurring on either inside or outside of a tube;
 - c) Degraded Tube means a tube containing imperfections greater than or equal to 20% of the nominal wall thickness caused by degradation;
 - d) % Degradation means the percentage of the tube wall thickness affected or removed by degradation.
 - e) Defect means an imperfection of such severity that it exceeds the plugging limit. A tube containing a defect is defective;
 - f) Plugging Limit means the imperfection depth at or beyond which the tube shall be removed from service and is equal to 40% of the nominal tube wall thickness.
 - 1) This definition does not apply to tube support plate intersections for which the voltage-based repair criteria are being applied. Refer to 5.5.9.d.1.j for the repair limit applicable to these intersections.

(continued)

5.5 Programs and Manuals

5.5.9 Steam Generator (SG) Tube Surveillance Program (continued)

- 2) Axial cracks in tubes returned to service using W^* shall have the upper crack tip below the BWT by at least the NDE measurement uncertainty, and below the top of tube sheet (TTS) by at least the NDE measurement uncertainty and crack growth allowance, such that at the end of the subsequent operating cycle the entire crack remains below the tubesheet secondary face.
 - 3) Resolvable, single axial indications (multiple indications must return to the null point between individual cracks) within the flexible W^* length can be left in service. Alternate RPC coils or an ultrasonic test (UT) inspection can be used to demonstrate return to null point between multiple axial indications or the absence of circumferential involvement between axial indications.
 - 4) Tubes with inclined axial indications less than 2.0 inches long (including the crack growth allowance) having inclination angles relative to the tube axis of < 45 degrees minus the NDE uncertainty, ΔNDE_{CA} , on the measurement of the crack angle can be left in service. Tubes with two or more parallel (overlapping elevation), inclined axial cracks shall be plugged or repaired. For application of the 2.0 inch limit, an inclined indication is an axial crack that is visually inclined on the RCP C-scan, such that an angular measurement is required, and the measured angle exceeds the measurement uncertainty of ΔNDE_{CA} .
 - 5) Circumferential, volumetric, and axial indications with inclination angles greater than $(45 \text{ degrees} - \Delta NDE_{CA})$ within the flexible W^* length shall be plugged or repaired.
 - 6) Any type of combination of the tube degradation below the W^* length is acceptable.
2. The SG tube integrity shall be determined after completing the corresponding actions (plug all tubes exceeding the plugging limit) required by Table 5.5.9-2.
- e. Reports
- The contents and frequency of reports concerning the SG tube surveillance program shall be in accordance with Specification 5.6.10.

5.5 Programs and Manuals (continued)

5.5.10 Secondary Water Chemistry Program

This program provides controls for monitoring secondary water chemistry to inhibit SG tube degradation. The program shall include:

- a. Identification of a sampling schedule for the critical variables and control points for these variables;
- b. Identification of the procedures used to measure the values of the critical variables;
- c. Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in leakage;
- d. Procedures for the recording and management of data;
- e. Procedures defining corrective actions for all off control point chemistry conditions; and
- f. A procedure identifying the authority responsible for the interpretation of the data and the sequence and timing of administrative events, which is required to initiate corrective action.

5.5.11 Ventilation Filter Testing Program (VFTP)

A program shall be established to implement the following required testing of Engineered Safety Feature (ESF) filter ventilation systems at the frequencies specified below and in accordance with Regulatory Guide 1.52, Revision 2, ANSI N510 1980, and ASTM D3803-1989.

- a. Demonstrate for each of the ESF systems that an in-place test of the high efficiency particulate air (HEPA) filters shows a penetration and system bypass < 1.0% when tested in accordance with ANSI N510-1980 at the system flowrate specified below \pm 10% at least once per 24 months.

ESF Ventilation System	Flowrate
Control Room	2100 cfm
Auxiliary Building	73,500 cfm
Fuel Handling Building	35,750 cfm

- b. Demonstrate for each of the ESF systems that an in-place test of the charcoal adsorber shows a penetration and system bypass < 1.0% when tested in accordance with ANSI N510-1980 at the system flowrate specified below \pm 10% at least once per 24 months.

ESF Ventilation System	Flowrate
Control Room	2100 cfm
Auxiliary Building	73,500 cfm
Fuel Handling Building	35,750 cfm

(continued)

5.5 Programs and Manuals

5.5.11 Ventilation Filter Testing Program (VFTP) (continued)

- c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal absorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows the methyl iodide penetration less than the value specified below when tested in accordance with ASTM D3803-1989 at a temperature of 30°C and at the relative humidity specified below. Laboratory testing shall be completed at least once per 18 months and after every 720 hours of charcoal operation.

ESF Ventilation System	Penetration	RH
Control Room	1.0%	70%
Auxiliary Building	6.0%	70%
Fuel Handling Building	4.3%	95%

- d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters and the charcoal adsorbers is less than the value specified below when tested in accordance with ANSI N510-1980 at the system flowrate specified below $\pm 10\%$ at least once per 24 months.

ESF Ventilation System	Delta P	Flowrate
Control Room	3.5 in. WG	2100 cfm
Auxiliary Building	3.7 in. WG	73,500 cfm
Fuel Handling Building	4.1 in. WG	35,750 cfm

- e. Demonstrate that the charcoal pre-heaters for each of the ESF systems dissipate the value specified below when tested in accordance with ANSI N510-1980 at least once per 24 months.

ESF Ventilation System	Wattage
Control Room	5 \pm 1 kW
Auxiliary Building	50 \pm 5 kW

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

5.5.12 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the Waste Gas Holdup System, the quantity of radioactivity contained in gas storage tanks, and the quantity of radioactivity contained in temporary unprotected outdoor liquid storage tanks.

The gaseous radioactivity quantities shall be determined following the methodology in Regulatory Guide 1.24 "Assumptions Used For Evaluating the Potential Radiological Consequences of a Pressurized Water Reactor Radioactive Gas Storage Tank Failure." The liquid radwaste quantities shall be maintained such that 10 CFR Part 20 limits are met.

(continued)

5.7 High Radiation Area

5.7.1 High Radiation Areas with Dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation (continued)

- (ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with individuals in the area who are covered by such surveillance.
- e. Except for individuals qualified in radiation protection procedures or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them.

5.7.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation:

- a. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked or continuously guarded door or gate that prevents unauthorized entry, and, in addition:
 - 1. All such door and gate keys shall be maintained under the administrative control of the shift manager, radiation protection manager, or his or her designee.
 - 2. Doors and gates shall remain locked except during periods of personnel or equipment entry or exit.
- b. Access to, and activities in, each such area shall be controlled by means of an RWP or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.
- c. Individuals qualified in radiation protection procedures may be exempted from the requirement for an RWP or equivalent while performing radiation surveys in such areas provided that they are otherwise following plant radiation protection procedures for entry to, exit from, and work in such areas.
- d. Each individual or group entering such an area shall possess:
 - 1. A radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or

(continued)



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 142 TO FACILITY OPERATING LICENSE NO. DPR-80
AND AMENDMENT NO. 142 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 March 16, 2000, as supplemented by letters dated April 11, April 19, June 2, and June 9, 2000, 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 Plant, Units 1 and 2 (DCNP). The proposed amendment would revise several sections of the Improved Technical Specifications (ITS) to correct 19 typographical errors based upon errors in the certified copy of the ITS that were submitted by the licensee's letter dated May 19, 1999 and revised by the licensee's letter dated May 27, 1999, as well as an editorial change to a title applicable at the time the ITS were issued. The amendments would also make 10 corrections to the conversion application and its associated supplements. The ITSs were issued as License Amendment (LA) Nos. 135 and 135 by the staff in its letter dated May 28, 1999, and will be implemented by the licensee to replace the current Technical Specifications (CTS) by May 31, 2000, and the amendments for these corrections will be implemented at that time also.

There are 19 proposed typographical errors to the ITSs in the licensee's amendment application that are administrative changes. These changes make the final version of the ITS consistent with the mark-ups of NUREG-1431 provided to the NRC from June 2, 1997 to May 27, 1999, and approved as part of LA Nos. 135/135 dated May 28, 1999. One editorial change reflects a change to a title applicable to the Shift Manager at the time LA Nos. 135/135 were approved. There were 10 proposed editorial corrections that reflect incorrect incorporation of the CTS into the ITS.

The April 19, June 2, and June 9, 2000, supplemental letters provided additional clarifying information, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination published in the Federal Register on April 19, 2000 (65 FR 21032).

2.0 EVALUATION

The attached table identifies 19 errors in the ITS, and one editorial change to the ITS. The staff has reviewed the licensee's proposed corrections and changes to the DCNP ITSs and has considered the following information:

- The licensee's application and supplemental letters identified in LA Nos. 135/135.
- The improved Standard Technical Specification (ISTs), NUREG-1431, "Standard Technical Specifications Westinghouse Plants," dated April 1995. As stated in Amendment Nos. 135/135, the Diablo Canyon ITSs is based on this NUREG.
- The safety evaluation approving the ITS in Amendment 135/135 and issued with the amendment in the staff's letter dated May 28, 1999.
- The licensee's justification in the application for the corrections.

The 19 proposed typographical errors to the ITS in the licensee's application are the following:

1. ITS 1.2, Example 1.2-2, Required Action A.2 - Correct the misalignment of the logical connectors.
2. ITS 2.1, Figure 2.1.1-1 - Correct spelling error of "NEUTRON" from "NEWTRON" and text misalignment of "TAVE (°F)."
3. ITS 3.1.3, Figure 3.1.3-1 - Revise the legend to state "MTC-PCM°°F" rather than "MTC-PCM."
4. Limiting Condition of Operation (LCO) 3.2.2, Required Action A 1.2.2. - Correct completion time misalignment.
5. LCO 3.3.1, Condition C - Correct spelling error of "withdrawal" rather than "withdrawl."
6. LCO 3.3.1, Required Action E, Note - Correct note which reads "Function 26" but should read "Function 2.b."
7. LCO 3.3.1, Table 3.3.1-1 - Correct table number in heading, which should read "3.3.1-1" instead of "3.3.3-1."
8. LCO 3.3.1, Table 3.3.1-1, Function 6 and 7 - Correct referenced page numbers to read "3.3-16" instead of "3.3-16" and "3.3-18" instead of "3.3-17."
9. ITS 3.3.1, Table 3.3.1-1, Function 22 - The required surveillance tests is corrected by deleting SR 3.3.1.17 and replacing it with SR 3.3.1.5 (as provided by response to request for additional information item (RAI) number DC 3.3-006 in DCL 99-063).

10. LCO 3.3.2, Required Action O - Correct character from numerical "0" to a capital "O."
11. LCO 3.3.2, Required Action P, Note - Note will read; "One additional channel may be bypassed for up to 4 hours for surveillance testing" (as provided in response to RAI Q 3.3-66 in DCL 98-167).
12. ITS 3.4.6, SR 3.4.6.3, Frequency - The frequency will be revised to 7 days (as shown in NUREG-1431 and the CTS).
13. LCO 3.4.14, Required Action, A.2.1 and A.2.2 - Correct the misalignment of logical connector.
14. ITS 3.7.10, Surveillance Requirement (SR) 3.7.10.2 - Correct numbering of surveillance from "3.17.10.2" to "3.7.10.2."
15. ITS 3.7.13, SR 3.7.13.4 - The word "on" should be revised to "one."
16. ITS 5.5.9.d.1.f.1) - Insert the word "being" between "are" and "applied."
17. ITS 5.5.11.a, b, d, e - The phrase "operating cycle" will be revised to "24 months" consistent with the CTS Errata RAI, DC-ALL-001 (DCL 98-107, dated August 5, 1998, and DCL 98-144, dated October 16, 1998). These errata corrections incorporated LA Nos. 119/117 and LA Nos. 118/116 (24-month fuel cycle) and were made to the CTS (4.7.5.1.c & d, 4.7.6.1.b, c, & d, 4.9.12.b & d) but were inadvertently overlooked in the relocated material in ITS 5.5.11. The relocated CTS material corrected by DC-ALL-001 uses the phrase "Refueling interval" which is defined in CTS Table 1-1 as 24 months.
18. ITS 5.7.2a.1 - Remove brackets from around the words "shift manager, radiation protection manager."
19. ITS 5.7.2.d.1 - Add word "dose" between "radiation" and "rates."

The licensee's proposed 19 corrections to the ITS are addressed in the attached table. The justification shows that they are typographical in nature or represent errors in preparing the final certified copy of the ITS. Based on the justifications given in the attached table, the staff concludes these 19 items are consistent with the justifications provided in the NRC staff's SE for LA Nos. 135/135. These changes need to be made to the ITS for the ITS to be correct, and are therefore acceptable.

One editorial change reflects a change to a title applicable at the time LA Nos. 135/135 was approved:

ITS 5.7.2.a.1 - The "Shift Supervisor" title is changed to "Shift Manager."

The licensee's proposed editorial change is a change of title only that will make the ITS use current terminology, and will not change the function or responsibilities of this individual, and is acceptable.

There were 10 proposed corrections which reflect changes to the conversion application and its associated supplements, and are as follows:

1. ITS 3.3.1, Table 3.3.1-1, Function 5 - SR 3.3.1.16 (Response Time Testing) will be restored to both Mode 2 and Modes 3, 4, 5 (with rod control system capable of rod withdrawal).

The requirement to perform response time testing per SR 3.3.1.16 is restored to Function 5, Source Range Neutron Flux, below P-6 and with the rod control system capable of rod withdrawal or one or more rods not fully inserted. This response time testing is required by the licensee's CTS because the source range neutron flux (high setpoint) and power range neutron flux (high and low setpoint) are credited for mitigation of an inadvertent rod withdrawal accident in Mode 3 in the licensee's current accident analysis. The deletion of the response time testing from the CTS was inadvertent since it was never proposed nor justified. The staff finds this change acceptable.

2. ITS 3.3.2, Table 3.3.2-1, Function 3.b.(3); SR 3.3.2.10 will be removed from Function 3.b.(3).

The requirement to perform SR 3.3.2.10, Response Time Testing, is removed from Function 3.b (3), Containment Pressure High-High. Response time testing of this feature is not required by the licensee's CTS. The Phase "A" containment high pressure is the credited response time for containment isolation (CTS Table 3.3-5, Function 2.a.3). There is no documentation associated with the conversion to the improved Technical Specification which indicates that this change was made or reviewed. This change was inadvertent and the removal of SR 3.3.2.10 from this functional unit is considered administrative. The staff finds this change acceptable.

3. ITS 3.3.3, SR 3.3.3.2 - Restore the Note excluding neutron detectors from Channel Calibration.

The Note, "Neutron detectors are excluded from CHANNEL CALIBRATION" is added to SR 3.3.3.2, Perform CHANNEL CALIBRATION. These neutron detectors can only be functionally checked since a calibration would require a set of high intensity check sources. The licensee states that calibration is essentially verified through cross correlation similar to the power range detectors. The cross correlation is based upon the calorimetric heat balance and the incore detectors and comparison with the power range detectors. The Note was inadvertently deleted and the restoration of this Note is consistent with NUREG-1431. The staff finds this change acceptable.

4. ITS 3.3.5, SR 3.3.5.2 and SR 3.3.5.3 - The frequency will be restored to the CTS value of 18 months.

The Frequency for SR 3.3.5.2, Perform TADOT, and SR 3.3.5.3, Perform CHANNEL CALIBRATION, are changed from a 24 month frequency to an 18 month frequency. This is appropriate since 18 months is the frequency found in the licensee's CTS and the licensee never provided a license amendment request or justification for the 24-month frequency to the NRC. This change was inadvertent, and therefore restoration to 18 months is considered an administrative change. The staff finds this change acceptable.

5. LCO 3.4.13.d - The 1 gpm value provided in LCO 3.4.13.d will be deleted from the LCO and the remaining items renumbered.

LCO 3.4.13.d, "1 gpm total primary to secondary LEAKAGE through all steam generators (SG)" is removed from this section. This statement had been removed from the licensee's CTS in LA Nos. 124/122, dated March 12, 1998. LCO 3.4.13.e, "150 gallons per day primary to secondary LEAKAGE through any one SG," is more limiting such that LCO 3.4.13.d is unnecessary detail. LCO 3.4.13.e will be renumbered as LCO 3.4.13.d. The removal of LCO 3.4.13.d is considered administrative. The staff finds this change acceptable.

6. ITS 3.4.14, SR 3.4.14.1 - Valves 8701 and 8702 will be restored to the exception list under Frequency.

Valves 8701 and 8702 are added to the list of exceptions under Frequency. Valves 8701 and 8702 are motor-operated residual heat removal pump suction valves with control room position indication, inadvertent opening interlocks, and system high pressure alarms. These valves are included in the licensee's CTS list of exceptions. The deletion of these valves in the conversion mark-ups was inadvertent. The restoration of these valves into the exception list is considered administrative. The staff finds this change acceptable.

7. ITS 3.7.1, Table 3.7.1-1 - The CTS 3.7.1, Table 3.7.1 note which states "Unless the Reactor Trip System breakers are in the open position." will be restored to Table 3.7.1-1.

A Note is restored to state, "Unless the Reactor Trip System breakers are in the open position," and referenced to the maximum allowable power range neutron flux setpoints. This note was removed as part of TSTF-235, which was withdrawn by the licensee. The licensee retained its CTS for this table, however, the note was inadvertently omitted in the restoration of the table. This note is part of the licensee's

CTS and, therefore, it is appropriate to restore this note, since this is an administrative change. The staff finds this change acceptable.

8. ITS 5.1.2 - The phrase "(other than the Shift Technical Advisor)" will be deleted.

The term "(other than the Shift Technical Advisor)" is removed from the text. This is consistent with Description of Change 01-15-A approved in the staff's SER for LA Nos. 135/135. This occurrence of the term was inadvertently left in the TS, since it was removed from other sections of the TS in accordance with the NRC approval of DOC 01-15-A. This change is considered administrative. The staff finds this change acceptable.

9. ITS 5.5.9.d.2 - The phrase "and all tubes containing through wall cracks" will be deleted.

The phrase, "and all tubes containing through wall cracks" is removed. This phrase was removed from the licensee's CTS by LA Nos. 124/122, dated March 12, 1998, as part of the alternate steam generator repair procedure. This phrase was inadvertently retained in the ITS markup, however was approved for removal, therefore this is considered an administrative change. The staff finds this change acceptable.

10. ITS 5.7.1.e - Add the phrase "or personnel continuously escorted by such individuals" after "protection procedures."

The phrase, "or personnel continuously escorted by such individuals," is added to Section 5.7.1.e. This phrase was added to ITS 5.7.2.e, but was inadvertently omitted from ITS 5.7.1.e. The licensee's CTS allows escorting in both high radiation areas with intensity less than 1 Rem/hour and greater than 1 Rem/hour. This restoration of the phrase is considered administrative. The staff finds this change acceptable.

The staff has reviewed the 19 proposed typographical errors, the one editorial change and the 10 incorrect incorporations of the ITS, and as noted found them acceptable.

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 (65 FR 21032). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

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

Attachment: Table of Licensee Identified Errors in the ITS

Principal Contributor: S. Bloom

Date: June 21, 2000

Table of Licensee Identified Errors in the ITSs

ERROR LOCATION	DESCRIPTION OF AND JUSTIFICATION FOR THE CORRECTION
ITS Section 1.2, Page 1.2-2	The alignment of the logical connectors "and" and "or" in Example 1.2-2 are made consistent with NUREG-1431
ITS Section 2.1, Page 2.0-2	The alignment of the legion for the ordinate of Figure 2.1.1-1 is corrected and the spelling of the word, "Neutron," is corrected.
ITS Section 3.1.3, Page 3.1-6	The ordinate legion of Figure 3.1.3-1 is changed from "MTC - PCM" to the technically more correct form, "MTC - PCM/F."
ITS Section 3.2.2, Page 3.2-5	The alignment of the Allowed Outage Time for Required Action A.1.2.2 is realigned to be consistent with NUREG-1431.
ITS Section 3.3.1, Page 3.3-1	The correct spelling of the word "withdrawal" is used in the Note for Condition C.
ITS Section 3.3.1, Page 3.3-3	The Function "26" used in the Note to the Required Action of Condition E is replaced with the correct form of Function "2.b" and the list is re-ordered to be consistent.
ITS Section 3.3.1, Table 3.3.1-1, Pages 3.3-12 through 3.3-18	The numbering of Table 3.3.1-1 is revised from "3.3.3-1" to "3.3.1-1" since this table is located in Section 3.3.1. This numbering is made consistent with NUREG-1431.
ITS Section 3.3.1, Table 3.3.1-1, Page 3.3-13	The reference page for Note 1 of Function 6 is changed to the correct page for Note 1 of 3.3-17 and the reference page for Note 2 of Function 7 is changed to the correct page for Note 2 of 3.3-18.
ITS Section 3.3.1, Table 3.3.1-1, Page 3.3-16	The Surveillance Requirements for Function 22 are corrected to replace SR 3.3.1.17 with SR 3.3.1.5. SR 3.3.1.17 was deleted during the review process and replaced by the more restrictive SR 3.3.1.5.
ITS Section 3.3.2, Page 3.3-24	The character used for Required Action O is changed from a numerical "0" to the alphabetical character "O."
ITS Section 3.3.2, Page 3.3-24	The Note associated for Required Action P is revised to read "One additional channel may be bypassed for up to 4 hours for surveillance testing." The licensee has the capability to test these 2 of 4 logic circuits consistent with the NRC staff's generic safety evaluation approving the use of WCAP-10271 with Supplements and Revisions.
ITS Section 3.4.4, Page 3.4-11	The allowed outage time of SR 3.4.6.3 is corrected to 7 days from 12 hours. The corrected value is consistent with NUREG-1431 and the licensee's CTS.

ERROR LOCATION	DESCRIPTION OF AND JUSTIFICATION FOR THE CORRECTION
ITS Section 3.4.14, Page 3.4-30	The alignment of the logical connector "or" between Required Action A.2.1 and A.2.2 is corrected to be consistent with the final markup of NUREG-1431 for LA Nos. 135/135.
ITS Section 3.7.10, Page 3.7-19	The numbering of SR 3.17.10.2 is corrected to SR 3.7.10.2 for consistency with Section 3.7.10 numbering and NUREG-1431.
ITS Section 3.7.13, Page 3.7-24	The spelling of "on" in SR 3.7.13.4 is corrected to "one."
ITS Section 5.5.9, Page 5.0-12	The missing word "being" is added between "are" and "applied." The word being was provided in the final markup of NUREG-1431 for LA Nos. 135/135.
ITS Section 5.5.11, Page 5.0-20	The term "operating cycle" is replaced by "24 months." This is consistent with the licensee's current Technical Specifications which uses the term "Refueling Interval." Refueling Interval is defined in the licensee's current Technical Specifications as "24 months."
ITS Section 5.7.2, Page 5.0-32	Removal of the brackets around the words "shift manager, radiation protection manager" which were in the ITS to indicate plant specific information.
ITS Section 5.7.2, Page 5.0-32	The missing word, "dose" is added between "radiation" and "rates" to more accurately reflect the perimeter being monitored.
EDITORIAL CORRECTION	
ITS Section 5.7.2, Page 5.0-32	The title, "shift supervisor" is edited to read "shift manager." The licensee states that the work functions and responsibilities of this individual remain unchanged.