

February 12, 1999

Mr. Harold B. Ray
Executive Vice President
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, California 92674-0128

SUBJECT: ISSUANCE OF AMENDMENTS FOR SAN ONOFRE NUCLEAR GENERATING STATION, UNIT NO. 2 (TAC NO. MA4241) AND UNIT NO. 3 (TAC NO. MA4242)

Dear Mr. Ray:

The Commission has issued the enclosed Amendment No. 150 to Facility Operating License No. NPF-10 and Amendment No. 142 to Facility Operating License No. NPF-15 for San Onofre Nuclear Generating Station, Unit Nos. 2 and 3. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated November 23, 1998 as supplemented January 13, 1999.

These amendments revise the technical specifications (TS) to (1) reinstate the log power reactor trip at or above 4E-5% RATED THERMAL POWER (RTP); (2) reinstate reactor trips for Reactor Coolant Flow - Low (RCS flow), the Local Power Density - High (LPD), and the Departure from Nucleate Boiling Ratio - Low (DNBR); (3) remove the word "automatically" from notes (a) and (d) of Table 3.3.1-1 to clarify that the manual enable of the trip is permissible; and (4) clarify that the setpoints on Table 3.3.1-1 are set relative to logarithmic power.

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

Sincerely,
Original Signed By

James W. Clifford, Senior Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-361
and 50-362

Enclosures: 1. Amendment No. 150 to NPF-10
2. Amendment No. 142 to NPF-15
3. Safety Evaluation

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Mr. Harold B. Ray

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February 12, 1999

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

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-361

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 150
License No. NPF-10

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Southern California Edison Company, et al. (SCE or the licensee) dated November 23, 1998, as supplemented by letter dated January 13, 1999, 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.

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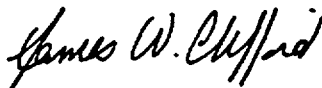
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-10 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 150 , are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance, and shall be implemented within 30 days of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



James W. Clifford, Senior Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: February 12, 1999

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 150 TO FACILITY OPERATING LICENSE NO. NPF-10

DOCKET NO. 50-361

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.

REMOVE

3.3-8
3.3-9

INSERT

3.3-8
3.3-9

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Linear Power Level – High	1.2	SR 3.3.1.1 SR 3.3.1.4 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.8 SR 3.3.1.9 SR 3.3.1.13	≤ 111.0% RTP
2. Logarithmic Power Level – High ^(a)	2 ^(b)	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≤ .93% RTP
3. Pressurizer Pressure – High	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 2385 psia
4. Pressurizer Pressure – Low ^(c)	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≥ 1700 psia
5. Containment Pressure – High	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 3.4 psig
6. Steam Generator 1 Pressure-Low	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia
7. Steam Generator 2 Pressure-Low	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia

(continued)

(a) Trip must be enabled when logarithmic power is < 4E-5% RTP. Trip may be manually bypassed during physics testing pursuant to LCO 3.1.12.

(b) When any RTCB is closed.

(c) The setpoint may be decreased to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between pressurizer pressure and the setpoint is maintained ≤ 400 psia. Trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia).

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
8. Steam Generator 1 Level - Low	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 20%
9. Steam Generator 2 Level - Low	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 20%
10. Reactor Coolant Flow - Low ^(d)	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	Ramp: ≤ 0.231 psid/sec. Floor: ≥ 12.1 psid Step: ≤ 7.25 psid
11. Local Power Density - High ^(d)	1.2	SR 3.3.1.1 SR 3.3.1.3 SR 3.3.1.4 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.11 SR 3.3.1.12 SR 3.3.1.13	≤ 21.0 kW/ft
12. Departure From Nucleate Boiling Ratio (DNBR) - Low ^(d)	1.2	SR 3.3.1.1 SR 3.3.1.2 SR 3.3.1.3 SR 3.3.1.4 SR 3.3.1.5 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.11 SR 3.3.1.12 SR 3.3.1.13	≥ 1.31

(d) Trip must be enabled when logarithmic power is > 1.5E-4% RTP. During testing pursuant to LCO 3.1.12, trip may be bypassed below 5% RTP. Bypass shall be removed when logarithmic power is ≥ 5% RTP.



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

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-362

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 142
License No. NPF-15

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Southern California Edison Company, et al. (SCE or the licensee) dated November 23, 1998, as supplemented by letter dated January 13, 1999, 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.

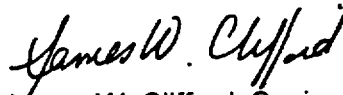
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-15 is hereby amended to read as follows:

(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. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance, and shall be implemented within 30 days of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



James W. Clifford, Senior Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: February 12, 1999

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 142 TO FACILITY OPERATING LICENSE NO. NPF-15

DOCKET NO. 50-362

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.

REMOVE

3.3-8

3.3-9

INSERT

3.3-8

3.3-9

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Linear Power Level — High	1.2	SR 3.3.1.1 SR 3.3.1.4 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.8 SR 3.3.1.9 SR 3.3.1.13	≤ 111.0% RTP
2. Logarithmic Power Level — High ^(a)	2 ^(b)	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≤ .93% RTP
3. Pressurizer Pressure — High	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 2385 psia
4. Pressurizer Pressure — Low ^(c)	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≥ 1700 psia
5. Containment Pressure — High	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 3.4 psig
6. Steam Generator 1 Pressure-Low	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia
7. Steam Generator 2 Pressure-Low	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia

(continued)

(a) Trip must be enabled when logarithmic power is * < 4E-5% RTP. Trip may be manually bypassed during physics testing pursuant to LCO 3.1.12.

(b) When any RTCB is closed.

(c) The setpoint may be decreased to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between pressurizer pressure and the setpoint is maintained ≤ 400 psia. Trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia).

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
8. Steam Generator 1 Level — Low	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 20%
9. Steam Generator 2 Level — Low	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 20%
10. Reactor Coolant Flow — Low ^(d)	1.2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	Ramp: ≤ 0.231 psid/sec. Floor: ≥ 12.1 psid Step: ≤ 7.25 psid
11. Local Power Density — High ^(d)	1.2	SR 3.3.1.1 SR 3.3.1.3 SR 3.3.1.4 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.11 SR 3.3.1.12 SR 3.3.1.13	≤ 21.0 kW/ft
12. Departure From Nucleate Boiling Ratio (DNBR) — Low ^(d)	1.2	SR 3.3.1.1 SR 3.3.1.2 SR 3.3.1.3 SR 3.3.1.4 SR 3.3.1.5 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.11 SR 3.3.1.12 SR 3.3.1.13	≥ 1.31

(d) Trip must be enabled when logarithmic power is * > 1.5E-4% RTP. During testing pursuant to LCO 3.1.12, trip may be bypassed below 5% RTP. Bypass shall be removed when logarithmic power is * ≥ 5% RTP.

• PCN 500



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 150 TO FACILITY OPERATING LICENSE NO. NPF-10
AND AMENDMENT NO. 142 TO FACILITY OPERATING LICENSE NO. NPF-15

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3

DOCKET NOS. 50-361 AND 50-362

1.0 INTRODUCTION

By application dated November 23, 1998, as supplemented by letter dated January 13, 1999, Southern California Edison Company, et al. (SCE or the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License Nos. NPF-10 and NPF-15) for San Onofre Nuclear Generating Station, Unit Nos. 2 and 3. The proposed changes would revise the Technical Specifications (TS) to (1) reinstate the log power reactor trip at or above 4E-5% RATED THERMAL POWER (RTP); (2) reinstate reactor trips for Reactor Coolant Flow - Low (RCS flow), the Local Power Density - High (LPD), and the Departure from Nucleate Boiling Ratio - Low (DNBR); (3) remove the word "automatically" from notes (a) and (d) of Table 3.3.1-1 to clarify that the manual enable of the trip is permissible; and (4) clarify that the setpoints on Table 3.3.1-1 are set relative to logarithmic power.

The design of the DNB/LPD/Log Power Bypass logic and setpoint cannot satisfy the current TS 3.3.1, Table 3.3.1-1, Notes (a) and (d) as written. Note (d) states the DNBR/LPD bypass "shall be automatically removed when thermal power is greater than or equal to 1E-4%." Note (a) states the logarithmic (log) power bypass "shall be automatically removed when thermal power is less than or equal to 1E-4%." The only setpoint which satisfies both specifications simultaneously is exactly 1E-4% power, a precision which cannot be achieved. This is because the same bistable is used to do both functions, where the DNBR/LPD bypass is automatically removed at the bistable setpoint on an increasing power and the logarithmic power bypass is automatically removed at the bistable reset on a decreasing power. As such, the two can never be equal and occur at the same time.

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The 1E-4% bistable is an operating bypass which performs three functions. Two functions of the bistable are to allow manual bypass of the DNBR and LPD-high trips. The bypasses are manually inserted by the operator when reactor power is less than 1E-4%. The bypass is automatically removed when power is greater than 1E-4%. The third function of the bistable is the high log power bypass. This bypass disables the high logarithmic power level trip during reactor startup. The bypass is manually inserted by the operator when reactor power is greater than 1E-4% and is automatically removed when power is less than 1E-4%.

Another problem is that the original safety analysis uses 1E-4% log power as the trip setpoint in both directions when evaluating CEA withdrawal transients initiated from subcritical and low power conditions. The bistable has only one trip setpoint, which currently satisfies the low power conditions of the safety analysis. The subcritical conditions are not bounded by the safety analysis because the actual setpoint is the bistable reset, which occurs at a value lower than 1E-4% log power. The licensee therefore addresses reevaluating the safety analysis using an upper operational limit (UOL) and lower analytical limit (LAL) that takes into consideration the total loop uncertainty for the 1E-4% log power bistable setpoint plus margin.

The January 13, 1999, supplemental letter provided additional information that did not change the staff's original no significant hazards consideration determination published in the FEDERAL REGISTER on December 30, 1998 (63 FR 71973).

2.0 EVALUATION

Since THERMAL POWER, as defined in the SONGS 2/3 TS, includes decay heat power, it is inappropriate for the intended application at low power levels where fission power only should be used. Therefore, the proposed revision clarifies that the setpoints are set relative to logarithmic power (not THERMAL POWER). This change was previously approved in Amendment No. 142 issued under emergency conditions for Unit 2 on September 25, 1998 and in Amendment No. 136 for Unit 3 issued on November 23, 1998, and therefore is already incorporated into the SONGS 2/3 TS.

Note (a) to TS Table 3.3.1-1 currently permits bypassing the log power trip when log power is greater than 1E-4% (1×10^{-4} %) rated thermal power (RTP) and requires automatic enable of the trip to occur at a setpoint of $\leq 1E-4\%$ RTP when reactor power is decreasing. Note (d) to TS Table 3.3.1-1 currently permits bypassing the RCS flow, LPD, and DNBR trips when log power is less than 1E-4% RTP and requires automatic enable of these trips to occur at a setpoint of $\geq 1E-4\%$ RTP when reactor power is increasing. Both enables for these trips are accomplished by the same bistable device for each channel. The RCS flow/LPD/DNBR trips enable occurs when the bistable trips; the log power trip enable occurs when the bistable resets. The bistable reset occurs at a lower reactor power level than the trip. Consequently, with the RCS flow/LPD/DNBR enable correctly set at less than 1E-4% RTP, the log power enable will occur at a reactor power level less than 1E-4% RTP (typically around 8E-5% RTP) which is contrary to the requirement of Note (a). In order to provide setpoints compatible with the installed instrumentation, SCE has proposed to revise Notes (a) and (d) of Table 3.3.1-1.

The proposed wording of Note (a) would remove the word "automatically" from the requirement to remove the log trip bypass when log power is $\geq 1\text{E-}4\%$ RTP and would instead require the log power trip to be enabled at log power levels less than $4\text{E-}5\%$ RTP. If the trip is not manually enabled before log power decreases to $4\text{E-}5\%$ RTP, it will be automatically enabled by that allowable value.

The proposed wording of Note (d) would also remove the word "automatically" from the requirement to remove the RCS flow/LPD/DNBR trips bypass when log power is $\leq 1\text{E-}4\%$ RTP and would instead require the trips to be enabled at log power levels greater than $1.5\text{E-}4\%$ RTP. If the trips are not manually enabled before log power increases to $1.5\text{E-}4\%$ RTP, they will be automatically enabled by that allowable value.

SCE has evaluated the impact of these proposed changes on the UFSAR Chapter 15 safety analyses. A limit of $\leq 1.0\text{E-}5$ was used for the log power trip enable and $\geq 1.0\text{E-}3$ for the RCS Flow/LPD/DNBR trip enable in the safety analysis. Based on the allowable values of $4\text{E-}5\%$ power for the decreasing setpoint (i.e., log power enable) and $1.5\text{E-}4\%$ power for the increasing setpoint (i.e. RCS flow/LPD/DNBR trip enable), the staff concludes that appropriately conservative limits were used in the safety analysis. The only events that were determined to be adversely impacted by the proposed changes were the uncontrolled control element assembly (CEA) withdrawal from a subcritical or a low power condition.

For the uncontrolled CEA withdrawal from subcritical, the worst case initial condition is from a core power of approximately $1\text{E-}8$ power (3.8×10^{-5} MWt). The log power trip is assumed to occur at 4% RTP. Reducing the enabling setpoint from $1\text{E-}4\%$ power to $1\text{E-}5\%$ power reduces the operating space requiring protection from the log power trip. Therefore, since the worst case initial condition is still maintained and the log power trip setpoint remains unchanged, the proposed change to Note (a) will have no adverse impact on the consequences of this event, and is acceptable. The only other potential impact of the proposed changes applies if the event assumes less than four reactor coolant pumps operating and credits the RCS flow trip or the core protection calculator (CPC) pump speed trip. SCE states that they have reanalyzed this event for part loop operation with a RCS flow/LPD/DNBR trip enable setpoint of $1\text{E-}3\%$ and that the results indicate that the consequences of this event remain bounded by the analysis presented in the Updated Final Safety Analysis Report (UFSAR) Section 15.4.1.1 with respect to the required acceptance criteria of fuel centerline temperature less than 4706°F , DNBR no less than 1.31, and RCS pressure no greater than 110% of design pressure. Therefore, the proposed change to Note (d) will have no adverse impact on the consequences of this event.

The proposed change in Notes (a) and (d) would extend the range of initial power conditions protected by the CEA withdrawal from low power conditions from $1\text{E-}4\%$ power to $1\text{E-}5\%$ power. The uncontrolled CEA withdrawal event from this low power level, corresponding to 33.9×10^{-5} MWt, is terminated by either a high power level trip, a high pressurizer pressure trip, a low DNBR (VOPT) trip, or a high LPD trip. SCE has stated that the reanalysis of this event to accommodate the allowable range window of the enable setpoint shows that the fuel centerline melt limit acceptance criterion of 4706°F , the DNBR acceptance criterion of 1.31, and the peak RCS pressure acceptance criterion of 110% design pressure are met. The severity of the transient is smaller at power levels above this due to the dampening effect of reactivity feedback mechanisms. Therefore, the required acceptance criteria for this event are still met with the proposed changes to Notes (a) and (d).

The setpoint for this bistable is currently set to permit manual bypass of the high log power trip and to automatically reinstate the DNBR/LPD trip at $1E-4\%$ power increasing power. This bistable also automatically reinstates the high log power trip and permits manual bypassing of the DNBR/LPD trip when the bistable setpoint resets on decreasing power. The input range for the log channel is from $2E-8\%$ to $2E+2\%$ power while the output is from 0 to 10 volts. The output to input sensitivity is then 1 volt per decade. Both the high log power trip and the high log power bypass receive an input signal from the same detectors and signal conditioning electronics. Since one of the functions of the bistable is to permit a bypass and automatically reinstate the High Log Power trip, the setpoint needs to be set to ensure that this will occur prior the high log power trip setpoint which is nominally set at 0.837% power plus the bistable uncertainty. According to the Combustion Engineering plant protection system setpoint calculation, the high log power trip of 0.837% corresponds to 7.622 volts while the calibration procedure for the bypass bistable indicates that the $1E-4\%$ setpoint corresponds to 3.699 volts. This is sufficiently conservative to allow the operator time to perform the manual bypass while also automatically reinserting the high log power trip protection (on reset) when required by the safety analysis. Another aspect of the bypass setpoint is that sufficient difference between the high log power trip setpoint and the bypass setpoint must exist to allow the operator sufficient margin to perform the manual bypass without causing an inadvertent trip.

Also, as discussed above, the bypass setpoint must be set such that the operator has sufficient time to manually bypass the high log trip without causing an inadvertent trip. If the calculated uncertainties (total loop uncertainty) for the bistable are applied to the setpoint, sufficient margin must be allowed for the manual bypass operation. Therefore, the present bistable increasing setpoint of $1E-4\%$ is acceptable. This setpoint allows the operator sufficient margin for implementing the manual bypass without causing an inadvertent trip. The decreasing setpoint, or reset of the increasing setpoint, will reinstate the high log power trip when it is required by the accident analysis to provide core protection for CEA withdrawal transients initiated from subcritical conditions.

SCE has presented the results of reanalysis of the transients (uncontrolled CEA withdrawal from subcritical or low power conditions) affected by the proposed changes to Notes (a) and (d) in Table 3.3.1-1 of TS 3.3.1 for SONGS 2/3. Based on these results, the consequences of these transients remain within their acceptance criteria and no significant reduction in the margins to safety ensues from the proposed changes to the bypass-permissive and enable setpoints, nor from establishing allowable values for the setpoints.

Therefore, the staff finds the proposed changes 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

The amendments changes 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 (63 FR 71973). 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.

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