UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. for a Class 103 License to Acquire, Possess, and Use a Utilization Facility as Part of Unit 3 of the San Onofre Nuclear Generating Station	)	Docket No. 50-362 Amendment Application No. 114

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90, hereby submit Amendment Application No. 114.

This amendment application consists of proposed Technical Specification Change No. NPF-15-329 to Facility Operating License No. NPF-15. Proposed Technical Specification Change NPF-15-329 will revise Technical Specification 3/4.7.1.1, "Turbine Cycle." This proposed change will increase the as-found setpoint tolerance for the Main Steam Safety Valves (MSSVs) from +/-1% to +2%/-3%. The existing ACTION statement will be revised to require HOT ~~STANDBY~~ SHUTDOWN instead of ~~HOT~~ COLD SHUTDOWN. ~~Table 3.7-2 will be revised to require a reduction in steady state operating power with MSSVs INOPERABLE.~~ Also included in this proposed change are several editorial, format, and Bases changes which clarify the intent of this TS. Supp. 1

Subscribed on this 22nd day of SEPTEMBER, 1994.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By: Richard M Rosenblum
Richard. M. Rosenblum
Vice President

State of California
County of Orange
On 9/22/94 before me, BARBARA A. McCARTHY/NOTARY PUBLIC, personally appeared RICHARD M. ROSENBLUM personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Barbara A. McCarthy

OFFICIAL SEAL
BARBARA A. MC CARTHY
Notary Public-California
ORANGE COUNTY
My Commission Expires
March 31, 1995

DESCRIPTION AND SAFETY ANALYSIS
OF PROPOSED CHANGE NPF 10/15-329, Supplement 1 | Supp. 1

This is a request to revise Technical Specification (TS) 3/4.7.1, "Turbine Cycle." This change will increase the as-found setpoint tolerance of the Main Steam Safety Valves (MSSVs). The existing ACTION statement will be revised to require HOT ~~STANDBY~~ SHUTDOWN instead of ~~HOT~~ COLD SHUTDOWN. ~~Table 3.7-2 will be revised to require a reduction in steady state operating power with MSSVs INOPERABLE.~~ Also included in this change are several format changes which clarify the intent of the TS. | Supp. 1

Existing Specifications

Unit 2: Attachment "A"
Unit 3: Attachment "B"

Proposed Specifications

Unit 2: Attachment "C"
Unit 3: Attachment "D"

Description

The following changes are requested as part of this TS change:

1) Revise Table 3.7-1 to increase the as-found setpoint tolerance of the MSSVs from +/-1% to +2%/-3%. Add a footnote to Table 3.7-1 to indicate that the setpoint tolerance for the lowest set pair of MSSVs will be +1%/-3%.

2) Add a footnote to TS 3.7.1.1 and revise footnote 1 of Table 3.7-1 to clarify that the MSSVs will be left at the lift setting according to Table 3.7-1 within a +/-1% tolerance following inservice testing.

3) Add the following ACTION statement for the case of less than 5 MSSVs OPERABLE per OPERABLE Steam Generator (SG): "With one or more Steam Generators having less than five main steam safety valves OPERABLE, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours."

4) Revise the existing ACTION statement to require "HOT SHUTDOWN within the following 12 hours" instead of "COLD SHUTDOWN within the following 30 hours."

5) Revise the format of column 1 and the title of Table 3.7-2 to require an exact ~~minimum~~ number of OPERABLE MSSVs instead of a maximum number of INOPERABLE MSSVs. | Supp. 1

~~6) Revise the title and column 2 of table 3.7-2 to require "Maximum Allowable Steady State Power" instead of "Maximum Allowable Value Linear Power Level-High Trip" and reduce the allowable steady state power values to provide margin for power indication error.~~ | Supp. 1

~~7)~~6) Delete the ORIFICE SIZE column of Table 3.7-1~~, and~~.

~~8)~~7) Revise the Bases to reflect these changes.

8) Revise page XIX of the Index to reflect the change to the Title of Table 3.7-2.

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These changes are requested to provide flexibility in testing and resetting the MSSVs, and provide clearer and more appropriate actions when MSSVs are determined to be INOPERABLE. These changes are acceptable because they maintain the intent of the TS, which is to ensure sufficient overpressure relief and heat removal capacity through the MSSVs for any postulated accident.

Discussion

The proposed changes and their justification are described below:

1) Increase the setpoint tolerance of the MSSVs from +/-1% to +2%/-3%.

The heading of Column 3 of Table 3.7-1 will be revised to read "Lift Setting." Footnote 1 of Table 3.7-1 will be revised to require an as-found setpoint tolerance of +2%/-3% and an as-left tolerance of +/-1%. By incorporating the as-found tolerance requirement of +2%/-3%, readjustment of the MSSVs to within the as-left +/-1% tolerance requirement may be accomplished without the time constraints of entering the 4 hour ACTION statement of TS 3.7.1.1. This change is requested to increase the allowable lift setting tolerance for normal MSSV setpoint drift. This change is acceptable because the MSSVs are still capable of performing their design functions when set within +2%/-3% of their setpoint as discussed below. The specific considerations are overpressurization, small break Loss of Coolant Accident (LOCA), and Steam Generator Tube Rupture (SGTR).

Overpressurization

The upper limit for lift pressures of 2% above existing TS setpoints is an increase from the +1% tolerance in the existing TS. This results in an increase in the maximum lift pressure of the valves.

MSSVs are designed to prevent overpressurization of the SGs and associated equipment and to provide a passive heat sink. These design functions can be met provided actual lift setpoints are less than or equal to the limiting lift setpoint assumed in the overpressurization analyses. The limiting overpressurization events are the Loss of Condenser Vacuum (LOCV) and the Feedwater Line Break (FWLB).

The LOCV and FWLB events were reanalyzed assuming lift setpoints 2% above existing TS setpoints. For the LOCV the peak primary and secondary pressures must remain less than 2750 psia and 1210 psia, respectively. The peak primary pressure increases from 2732 psia to 2734 psia. The peak secondary pressure increases from 1186 psia to 1195 psia. The FWLB peak primary and secondary pressures must remain less than 3000 psia and 1210 psia, respectively. Peak primary pressure does not increase from the current value of 2911 psia. Peak secondary pressure increases from 1150 psia to 1160 psia. For both of these events peak primary and secondary pressures remain below the maximum allowed. The lower allowable lift pressure for each MSSV will be lowered by 2% (from -1% below the setpoint to -3% below the setpoint) as a result of this change. Reanalyses performed to support the setpoint tolerance expansion demonstrate that the overpressure relief requirements for the bounding events, LOCV and

FWLB, are met if all MSSVs are set as low as 1067 psia. In accordance with this change, the lowest allowable lift pressure of the lowest set MSSV will be 1067 psia. Therefore, this change does not present an adverse safety consequence.

The proposed as-found setpoints have a marginal effect on transient Departure from Nucleate Boiling Ratio (DNBR). However, TS 3/4.2.4 reserves adequate DNBR overpower margin to ensure specified acceptable fuel design limits are not exceeded in the event of an Anticipated Operational Occurrence. The limiting required DNBR overpower margin is not adversely affected by this proposed change to MSSV setpoints.

Small Break LOCA

The lift setpoint of the lowest set MSSVs affects secondary pressures and temperatures following a Design Basis Event (DBE) with a loss of normal secondary heat sink. Therefore, raising the upper limit of lift pressures over existing values would affect the initial conditions of the small break LOCA analyses. This event has not been reanalyzed. Instead, a footnote to column 3 of Table 3.7-1 will be added as part of this change to require that the lowest set pair of valves will be maintained at 1100 psia +1/-3%. This results in no change to the highest allowable lift pressure for the lowest set pair of valves. Therefore, no reanalysis is necessary.

Steam Generator Tube Rupture

This change results in a lowest allowable limit of 1067 psia for the pair of valves set at the lowest relief setting of 1100 psia. This is a reduction from 1089 psia, which is the current limit of 1% below the existing setpoint. Operation of this pair of MSSVs at reduced pressure can impact radiological releases and primary-to-secondary leakage following a SGTR. The SGTR analysis was examined, and it was determined that the MSSV model used in the SGTR analysis bounds the characteristics of an MSSV with setpoints as low as 1067 psia. Therefore, the minimum lift pressure of 1067 psia for the pair of MSSVs set at 1100 psia is acceptable.

Operation with Inoperable MSSVs

Table 3.7-2 provides reduced trip settings for the Linear Power-High trip for operation with inoperable MSSVs. The reduced trip settings ensure sufficient relief and heat removal capacity are available through the remaining OPERABLE MSSVs. The basis for the current reduced trip settings assumes a maximum MSSV setpoint tolerance of +1%. However, the existing Table 3.7-2 provides appropriate allowable values for the Linear Power-High Trip with inoperable MSSVs based on the original Combustion Engineering (CE) standard TSs. These power level values are conservative when compared to limiting values provided by CE for a Loss of Condenser Vacuum with a Single Failure (which is the limiting event) assuming MSSVs have a setpoint tolerance of up to +2%. Supp. 1

2) Add a footnote to Limiting Condition for Operation (LCO) 3.7.1.1 and revise footnote 1 of Table 3.7-1 to clarify that the MSSVs will be left within a +/-1% tolerance following inservice testing.

This proposed footnote is added to clarify the difference between "as-found" and "as-left" conditions of the MSSVs. If following inservice testing according to TS 4.0.5, an MSSV is found to be within +2%/-3% of its setpoint, but outside the

as-left requirement of +/-1% of the setpoint, it will be considered OPERABLE in accordance with LCO 3.7.1.1. However, in accordance with this footnote, the MSSV must be returned to within +/-1%. The purpose of returning to +/-1% is to reduce the potential of the setpoint drifting outside the +2%/-3% tolerance range before the next scheduled inservice testing.

3) Add ACTION b for the case of less than 5 MSSVs OPERABLE per OPERABLE SG.

A second ACTION statement will be added to LCO 3.7.1.1. This is a clarification to reflect that with less than 5 MSSVs OPERABLE the plant must be in HOT STANDBY within 6 hours and HOT SHUTDOWN within an additional 12 hours. This precludes the need to enter TS 3.0.3 when less than 5 MSSVs are OPERABLE.

4) Revise ACTION a to require entry into HOT SHUTDOWN within 12 hours instead of COLD SHUTDOWN in 30 hours.

The existing ACTION a for LCO 3.7.1.1 requires entry into COLD SHUTDOWN within 30 hours if the action specified in Table 3.7-2 is not met. The proposed change requires entry into HOT SHUTDOWN within 12 hours.

The LCOs for MSSVs are not applicable in Mode 4 (HOT SHUTDOWN). Therefore, the appropriate action if the LCO cannot be met is to enter Mode 4. The completion time is shortened to 12 hours because of the seriousness of the conditions requiring Mode 4 entry. Also included in the change to ACTION a is deletion of the option of restoring the inoperable valves to OPERABLE status. Restoring INOPERABLE MSSVs to OPERABLE status causes automatic exit from the LCO. Therefore, it is not necessary to state this in the ACTION statement.

5) Revise the format of column 1 and the title of Table 3.7-2.

The format of column 1 of Table 3.7-2 is revised to specify the exact~~minimum~~ number of OPERABLE MSSVs per OPERABLE SG as opposed to a maximum number of INOPERABLE MSSVs per OPERABLE SG. The title of Table 3.7-2 is revised to reflect the change to column 1. This is an editorial change.

~~6) Revise the title and column 2 of Table 3.7-2 to require "Maximum Allowable Steady State Power" instead of "Maximum Allowable Value Linear Power Level High Trip" and reduce the allowable steady state power values to provide margin.~~

~~The existing ACTION for LCO 3.7.1.1 requires the high linear power trip setpoint to be reduced in accordance with Table 3.7-2 when MSSVs are inoperable. The proposed ACTION will no longer require lowering of the trip setpoint, but will require a reduction in the allowable steady state power during periods with inoperable MSSVs. This change is requested because lowering the trip setpoints is an unnecessary action which complicates completing the ACTION for LCO 3.7.1.1 within the required 4 hours.~~

~~The proposed allowable operating powers in Table 3.7-2 are based on analyses demonstrating acceptable overpressurization results for the bounding events, FWLB and LOCV. These proposed allowable operating powers are slightly decreased from existing values to allow for error tolerances in the steady state power indication.~~

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~~The limiting event for operation with INOPERABLE MSSVs is the LOCV. This event, which credits high pressurizer pressure trip for mitigation of the event, would result in a negligible power increase or a power decrease. Therefore, the unit will not trip on high linear power even if trip setpoints are reduced. This is also true for all decreased heat removal events which call for MSSV operation.~~

~~Therefore, reduction of high linear power trip setpoints provides no significant safety benefit.~~

~~Transients which do rely on the high power trip were also reviewed. Control Element Assembly (CEA) Ejection and CEA Withdrawal are the most limiting events which involve a high power trip followed by MSSV demand. A review of these events determined that with normal high linear power and variable overpower trip setpoints, the MSSV capacity assured by operating according to proposed Table 3.7-2 exceeds steam relieving requirements. Therefore, reduction of high linear power trip setpoints provides no significant safety benefit.~~ Supp. 1

~~The only advantage that reducing high linear power trip setpoints provides is additional assurance that the allowable power levels for operation with INOPERABLE MSSVs can not be exceeded. However, normal administrative controls provide reasonable assurance that TS power limits for operation with INOPERABLE MSSVs are not exceeded.~~

~~Reducing the linear high power trip setpoint can potentially initiate a reactor trip during a condition when MSSV total capacity is reduced. Therefore, reducing the high level power trip setpoint is unnecessary and inappropriate.~~

~~7)~~6) Delete the "ORIFICE SIZE" column of Table 3.7-1.

The orifice size of the MSSVs is not variable. This information is therefore not relevant and should be removed. Descriptions of the MSSV relieving capacities are in the Bases for TS 3.7.1.1.

~~8)~~7) Revise the Bases to TS 3/4.7.1 to provide consistency with the above changes. Supp. 1

The proposed Bases section reflects the change to an expanded as-found setpoint tolerance~~,~~ and the proposed ACTION statement requiring at least five MSSVs OPERABLE in Modes 1 through 3~~,~~. ~~and the change from requiring reduced linear power high trip setpoints with INOPERABLE MSSVs to requiring reduced steady state power levels with INOPERABLE MSSVs~~. These changes are acceptable as discussed above. Supp. 1

B) Revise page XIX of the Index to reflect the change to the Title of Table 3.7-2.

Item 4 revises the title of Table 3.7-2 to "MAXIMUM ALLOWABLE VALUE LINEAR POWER LEVEL-HIGH TRIP WITH OPERABLE MAIN STEAM SAFETY VALVES DURING OPERATION WITH BOTH STEAM GENERATORS." The existing title specifies trip setting limits based on the number of inoperable safety valves. This title appears in the index to the TSs and therefore the index should be revised to reflect this change. This is an editorial change. Supp. 1

Safety Analysis

The proposed change described above shall be deemed to involve a significant hazards consideration if there is a positive finding in any one of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The proposed change to increase the as-found setpoint tolerance of the Main Steam Safety Valves (MSSVs) to +2%/-3% maintains safety analysis requirements. Because the upper limit lift pressures are higher, peak primary and secondary pressures are affected. However, reanalyses of the limiting overpressure events, which are the Loss of Condenser Vacuum (LOCV) and Feedwater Line Break (FWLB), demonstrate that the proposed upper limits do not significantly affect peak primary or secondary pressures. Therefore, the proposed upper limits maintain the MSSVs within safety analysis limits. Also, margin between the as-left setpoints and the upper limit of the as-found setpoint tolerance is maintained by the proposed footnote to Limiting Condition For Operation 3.7.1.1 and Table 3.7-1.

   If the MSSVs are set below the upper limit lift pressures, acceptable overpressure results are obtained. Therefore, lowering the minimum allowable lift pressure to -3% below each setpoint maintains valve setpoint staggering, safety analysis requirements, and sufficient margin between MSSV lift pressures and peak operating pressure. Also, a setpoint tolerance of -3% for the lowest set pair of valves maintains the current dose assumption associated with a Steam Generator Tube Rupture.

   The proposed as-found setpoints have a marginal effect on transient Departure from Nucleate Boiling Ratio (DNBR). However, TS 3/4.2.4 reserves adequate DNBR overpower margin to ensure specified acceptable fuel design limits are not exceeded in the event of an Anticipated Operational Occurrence. The limiting required overpower margin is not adversely affected by this proposed change to MSSV setpoints.

   The existing Table 3.7-2 provides appropriate allowable values for the Linear Power-High Trip with inoperable MSSVs relative to values provided by Combustion Engineering (CE) for a Loss of Condenser Vacuum with a Single Failure (which is the limiting event) assuming MSSVs have a setpoint tolerance of up to +2%. Supp. 1

   Because this change still requires MSSVs to be set within safety analysis limits, there is no significant increase in the probability or consequences of a previously evaluated accident.

   The change to ACTION statement a requires entry into HOT SHUTDOWN conditions within 12 hours instead of COLD SHUTDOWN within 30 hours.

Reducing the completion time to 12 hours is more conservative than the existing requirements. Furthermore, the MSSVs are not required to be OPERABLE in HOT SHUTDOWN. Therefore, there is no significant increase in the probability or consequences of a previously evaluated accident due to this change.

~~Revising the title of column 2 of Table 3.7 2 to "Maximum Allowable Steady State Power" requires reduction of Steady State Thermal Power instead of reduction of linear power high trip setpoints when one or more MSSVs are inoperable. The allowable power values are based on sufficient overpressure mitigation and decay heat removal capacities for the number of operable MSSVs. Reducing the allowable steady state powers from existing values provides margin for power indication error and is more conservative than existing allowable steady state power values. Reactor trip for overpressure events is maintained through a high pressurizer pressure trip. Analysis of the Control Element Assembly (CEA) Ejection and Withdrawal events initiated at reduced power levels demonstrates sufficient relief capacities with normal trip setpoints. Therefore, there is no significant increase in the probability or consequences of a previously evaluated accident due to this change.~~ Supp. 1

The additional ACTION statement is a clarification to provide more explicit guidance to the operators for all configurations of inoperable MSSVs. Therefore, this change does not involve a significant increase in the probability or consequences of a previously evaluated accident.

Deleting the orifice size column from Table 3.7-1 is an editorial change only. This information is not used by the operators, nor do they have any control over MSSV orifice size. Therefore, removing this information does not significantly increase the probability or consequences of a previously evaluated accident.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different type of accident from any accident previously evaluated?

Response: No

MSSVs are designed to provide overpressure protection and decay heat removal during design basis events. Therefore, widening the as-found setpoint tolerance to +2%/-3% for the MSSVs affects only those previously evaluated events which require MSSV actuation. The only effect MSSV setpoints have on normal plant operation is inadvertent opening of a valve due to a low setpoint. The minimum lift pressure of 1067 psia is sufficiently higher than peak secondary operating pressures so that the probability of inadvertent MSSV opening is not increased. Therefore, this proposed change will not create the possibility of a new or different type of accident from any accident previously evaluated.

Requiring HOT SHUTDOWN entry instead of COLD SHUTDOWN entry in Action a is acceptable because there is no credible event different from any previously evaluated requiring MSSV operation in HOT

SHUTDOWN. Therefore, this proposed change will not create the possibility of a new or different type of accident from any accident previously evaluated.

~~Requiring reduced steady state power levels with one or more inoperable MSSV instead of reducing linear power level high trip setpoints is acceptable because reactor trip for overpressurization events occurs on high pressurizer pressure for all events. For the CEA Ejection or Withdrawal events, sufficient relief capacity is maintained by operating according to Table 3.7-2 with normal high power trip setpoints. A trip on reduced high linear power is unnecessary. Normal administrative controls provide reasonable assurance that the power limits for operation with INOPERABLE MSSVs are not exceeded. Therefore, there is no possibility of a new or different type of accident from any accident previously evaluated.~~ Supp. 1

The additional action statement to require a mode reduction when less than five MSSVs are OPERABLE for any steam generator is a clarification to provide explicit guidance to the operators for all configurations of inoperable MSSVs. This is more conservative than the existing requirements. Therefore, this change does not create the possibility of a new or different type of accident from those previously evaluated.

Deleting the orifice size column from Table 3.7-1 is an editorial change only. This information is not used by the operators, nor do they have any control over MSSV orifice size. Therefore, removing this information does not create the possibility of a new or different type of accident from those that have been previously evaluated.

3. Will operation of the facility according to this proposed change involve a significant reduction in a margin of safety?

Response: No

The only margin of safety affected by this change is the increase in peak primary and secondary pressure due to raising the upper limit of allowable lift pressures. The limiting overpressure events, FWLB and LOCV were reanalyzed with the proposed upper limits and peak primary and secondary pressures remain within design limits. The existing Table 3.7-2 provides appropriate allowable values for the Linear Power-High Trip with inoperable MSSVs relative to values provided by CE for a Loss of Condenser Vacuum with a Single Failure (which is the limiting event) assuming MSSVs have a setpoint tolerance of up to +2%. Therefore, there is no significant reduction in a margin of safety. Supp. 1

The change to a +2%/-3% expanded as-found setpoint tolerance maintains safety analysis requirements. The change requiring HOT SHUTDOWN entry instead of COLD SHUTDOWN entry is more appropriate than the existing specification. ~~The change requiring a reduction in steady state power level instead of reducing the linear power level high trip setpoint continues to maintain the plant at a power level based on the operability of MSSVs.~~ The additional ACTION Supp. 1

statement is a clarification to provide explicit guidance to the operators for all configurations of inoperable MSSVs. Deleting the orifice size column from Table 3.7-1 is an editorial change only. Therefore, there is no significant reduction in a margin of safety as a result of this change.

Safety and Significant Hazards Determination

Based on the above Safety Analysis, it is concluded that: 1) the proposed change does not constitute a significant hazards consideration as defined by 10CFR50.92; 2)there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and 3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.