

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA)	Docket No. 50-361
EDISON COMPANY, <u>ET AL.</u> for a Class 103)	
License to Acquire, Possess, and Use)	
a Utilization Facility as Part of)	Amendment Application
Unit No. 2 of the San Onofre Nuclear)	No. 152
Generating Station)	

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CAR 50.90, hereby submit Amendment Application No. 152.

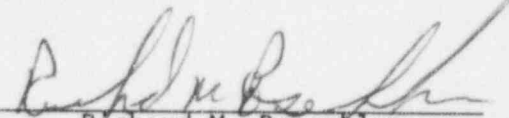
This amendment application consists of Proposed Change Number (PCN)-451 to Facility Operating License No. NPF-10. PCN-451 is a request to revise Unit 2 post PCN-299 (Technical Specification Improvement Program) Specification 3.5.1, "Safety Injection Tanks," to 1) extend, in general, the Allowed Outage Time (AOT) for a single inoperable Safety Injection Tank (SIT) from 1 hour to 24 hours and 2) extend the AOT from 1 hour to 72 hours for a single inoperable SIT when the SIT is inoperable due to malfunctioning SIT water level and/or nitrogen cover pressure instrumentation.

Subscribed on this 6TH day of NOVEMBER, 1995

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By:



Richard M. Rosenblum
Vice President

State of California
County of San Diego

On 11/6/95 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



UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA)	Docket No. 50-362
EDISON COMPANY, <u>ET AL.</u> for a Class 103)	
License to Acquire, Possess, and Use)	
a Utilization Facility as Part of)	Amendment Application
Unit No. 3 of the San Onofre Nuclear)	No. 136
Generating Station)	

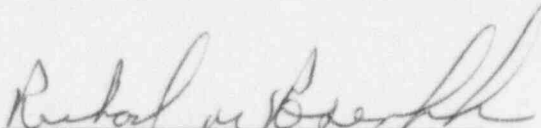
SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90, hereby submit Amendment Application No. 136.

This amendment application consists of Proposed Change Number (PCN)-451 to Facility Operating License No. NPF-15. PCN-451 is a request to revise Unit 3 post PCN-299 (Technical Specification Improvement Program) Specification 3.5.1, "Safety Injection Tanks," to 1) extend, in general, the Allowed Outage Time (AOT) for a single inoperable Safety Injection Tank (SIT) from 1 hour to 24 hours and 2) extend the AOT from 1 hour to 72 hours for a single inoperable SIT when the SIT is inoperable due to malfunctioning SIT water level and/or nitrogen cover pressure instrumentation.

Subscribed on this 6th day of NOVEMBER, 1995.

Respectfully submitted,

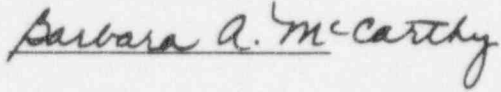
SOUTHERN CALIFORNIA EDISON COMPANY

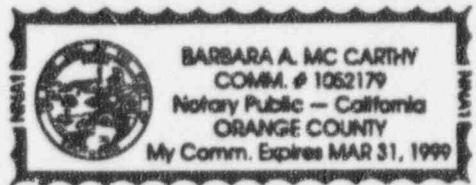
By: 
Richard M. Rosenblum
Vice President

State of California
County of San Diego

On 11/6/95 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 



**DESCRIPTION AND SAFETY ANALYSIS
OF PROPOSED CHANGE NPF-10/15-451**

This is a request to revise the San Onofre Units 2 and 3 Post PCN-299 (Technical Specification Improvement Program) Technical Specification (TS) 3.5.1, "Safety Injection Tanks."

Post PCN-299 (Technical Specification Improvement Program) Specifications

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

Proposed Specifications

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

DESCRIPTION OF PROPOSED CHANGES

In post PCN-299 (Technical Specification Improvement Program) TS 3.5.1, "Safety Injection Tanks:"

- o The Allowed Outage Time (AOT) for a single inoperable Safety Injection Tank (SIT) is proposed to be extended from 1 hour to 72 hours when the SIT water level and/or nitrogen cover pressure cannot be verified due to malfunctioning SIT water level and/or nitrogen cover pressure instrumentation.
- o The AOT for a single inoperable SIT is proposed to be extended from 1 hour to 24 hours when the SIT is determined to be inoperable due to causes other than 1) the boron concentration being outside the prescribed limits and 2) the inability to verify SIT water level and/or nitrogen cover pressure because of instrument failures.

Included in Attachment "C" for Unit 2 and Attachment "D" for Unit 3, respectively, are revised post PCN-299 LCO page 3.5-1 and Bases pages B3.5-7 through B3.5-10a.

BACKGROUND

The SITs are passive pressure vessels partially filled with borated water and pressurized with a cover of nitrogen gas to facilitate injection into the reactor vessel during the blowdown phase of a large break Loss of Coolant Accident (LOCA). This action provides inventory to assist in accomplishing the refill stage following blowdown. The SITs also provide Reactor Coolant System (RCS) makeup for small break LOCAs.

Each SIT is connected to an associated RCS cold leg by way of an Emergency Core Cooling System (ECCS) line, which is also utilized by the High Pressure Safety Injection (HPSI) system and the Low Pressure Safety Injection (LPSI) system. Each SIT is isolated from the RCS, during normal operations, by two check valves in series. Each SIT discharge has a normally open and deenergized motor-operated isolation valve used to isolate the SIT from the RCS during normal depressurization and cooldown evolutions.

The SIT gas pressure and volume, water volume, and outlet piping are designed to allow three of the four SITs to inject the inventory necessary to keep clad melt and zirc-water reaction within design assumptions following a design basis LOCA. The design assumes the loss of inventory from one SIT via the LOCA break.

The ECCS is described in Section 6.3 with the SITs specifically described in Section 6.3.2.2.1 of the San Onofre Units 2 and 3 Updated Final Safety Analysis Report (UFSAR).

DISCUSSION OF CHANGE

Industry operating experience has demonstrated that many of the causes of SIT inoperability have been diagnosed and corrected within a relatively short period of time, but often longer than the existing 1 hour AOT. In several instances, diagnosis of an inoperable SIT has resulted in plant shutdowns. A review of this operating experience, as well as a general review of existing Probabilistic Risk Assessment (PRA) studies, led to questioning whether transitioning to a lower mode as required by the existing TS action provides a greater reactor safety than remaining at power and repairing the inoperable SIT.

If a single SIT were to be diagnosed as inoperable for reasons other than due to boron concentration being outside the limits established by the San Onofre Units 2 and 3 TS 3.5.1 post PCN-299, the SIT must be restored to operable status within one hour or the plant must be in at least Hot Standby within 6 hours and the pressurizer pressure reduced to less than 715 psia within 12 hours. The proposed change to TS 3.5.1 post PCN-299 would allow continued operation up to 72 hours, in lieu of 1 hour, to restore the SIT to operable status if the inoperability of the SIT is determined to be due to the inability to verify water level and/or nitrogen cover pressure because of malfunctioning SIT water level and/or cover pressure instrumentation. The proposed TS change also allows up to 24 hours, in lieu of 1 hour, to restore a single SIT to operable status if the SIT is declared inoperable for any reasons other than the reasons mentioned above.

The Combustion Engineering Owners Group (CEOG) Report CE NPSD-994, "Joint Applications for Safety Injection Tank AOT/STI Extension," has demonstrated risk calculations associated with an AOT extension from one hour to 24 hours. The results of the analyses indicate that the average single and yearly AOT risk contributions are negligible and the average core damage frequencies (CDFs) are virtually unchanged. The data and risk results in CE NPSD-994 pertaining to the San Onofre units were supplied and endorsed by Southern California Edison.

The risk assessment performed by the CEOG in CE NPSD-994 evaluated "at power risk," "transition risk," "shutdown risk" and "large early release." At power risk represents the risk associated with continued operation with a single SIT out of service. Transition risk represents the risk associated with reducing power and placing the plant in a Hot or Cold Shutdown mode following equipment failure. Shutdown risk benefits were not credited for the SIT AOT extension. The results of this analysis indicate that the average core damage probability (CDP) attributable to transition risk is larger than the average CDP associated with continued power operation of the plants with one SIT inoperable for the proposed AOT.

As part of the CEOG study an assessment was performed on the impact of the proposed AOT extension on large early release scenarios. The three classes of events considered for these release scenarios include: Class 1 event category (containment bypass); Class 2 event category (severe accidents accompanied by loss of containment isolation); and Class 3 event category (containment failure associated with energetic events in the containment). The assessment concluded that the unavailability of one SIT would not impact or alter the progression of Class 1 events since these events are characterized by an irrevocable loss of reactor inventory along with any makeup outside of containment. A small increase in Class 2 events could occur when an unmitigated large break LOCA occurs in conjunction with an initially unisolated containment. There will be no significant fission product releases unless the containment is unscrubbed (containment sprays are inoperable). This combination of Class 2 events is considered of very low probability. Class 3 events are dominated by RCS transients that occur at high pressure. These events exclude those where SIT performance would be called for and therefore SIT status is not a contributor to this event category. Therefore, the assessment concluded that the unavailability of one SIT will result in a negligible impact on the large early release probability for San Onofre.

The San Onofre post PCN-299 TS 3.5.1 does not differentiate between a SIT that is inoperable due to tank inventory or nitrogen gas pressure discrepancies and a SIT whose inventory or gas pressure cannot be verified due solely to malfunctioning water level instrumentation or pressure instrumentation or both. Because these instruments provide no safety actuation, it is reasonable to extend the AOT since the SIT is available to perform its safety function during this time. This proposed change is in accordance with the provisions of NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," and Generic Letter 93-05, "Line Item Improvements to Reduce Surveillance Requirements for Testing During Power Operation."

The CEOG study concluded that the overall plant risk with this proposed AOT is either risk beneficial or, at the very least, risk neutral.

The Surveillance Test Interval (STI) portion of CE NPSD-944 deals with boric acid concentration sampling surveillance requirements. A change to the boron sampling requirements, which eliminates a surveillance when the SIT makeup water is from the Refueling Water Storage Tank (RWST), was evaluated and endorsed by the NRC in NUREG-1366. This change is already incorporated in the Improved Standardized Technical Specifications for San Onofre Units 2 and 3.

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 Safety Injection Tanks (SITs) are passive components in the Emergency Core Cooling System (ECCS). The SITs are not accident initiators in any accident previously evaluated. Therefore, this change does not involve an increase in the probability of an accident previously evaluated.

The SITs are designed to mitigate the consequences of Loss of Coolant Accidents (LOCAs). The proposed changes do not affect any of the assumptions used in deterministic LOCA analysis. Therefore, the consequences of accidents previously evaluated do not change.

To fully evaluate the SIT Allowed Outage Time (AOT) extension, Probabilistic Safety Analysis (PSA) methods were utilized. The results of these analyses show no significant increase in core damage frequency. As a result, there would be no significant increase in the consequences of an accident previously evaluated.

The proposed change pertaining to SIT inoperability based solely on instrumentation malfunction does not involve a significant increase in the consequences of an accident as evaluated and endorsed by the Nuclear Regulatory Commission (NRC) in NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements."

Therefore, this change does not involve a significant increase in the probability or consequences of any accident previously evaluated.

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

Response: No

This proposed change does not change the design, configuration, or method of operation of the plant. Therefore, this change does not create the possibility of a new or different kind of accident from any previously evaluated.

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

Response: No

The proposed changes do not affect the limiting conditions for operation or their bases that are used in the deterministic analyses to establish the margin of safety. PSA evaluations were used to evaluate these changes. These evaluations demonstrate that the changes are either risk neutral or risk beneficial.

Therefore, this change does not involve a significant reduction in a margin of safety.

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 10 CFR 50.92 and 2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change. Moreover, because this action does not involve a significant hazards consideration, it will also not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

ATTACHMENT "A"

POST PCN-299 (TECHNICAL SPECIFICATION IMPROVEMENT PROGRAM) SPECIFICATIONS
UNIT 2