

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. 151
Generating Station)	

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90, hereby submit Amendment Application No. 151.

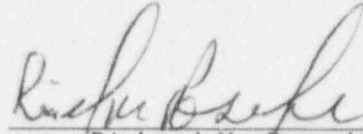
This amendment application consists of Proposed Change Number (PCN)-452 to Facility Operating License No. NPF-10. PCN-452 is a request to revise Unit 2 post PCN-299 (Technical Specification Improvement Program) Specification 3.5.2, "ECCS-Operating," to extend the allowed outage time from 72 hours to 7 days for a single Low Pressure Safety Injection train.

Subscribed on this 8th day of NOVEMBER, 1995

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By:



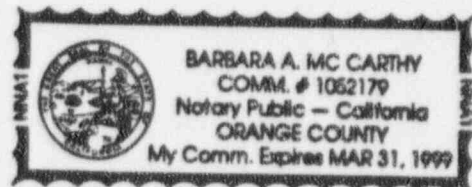
Richard M. Rosenblum
Vice President

State of California
County of San Diego

On 11/8/95 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



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NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA)	Docket No. 50-362
EDISON COMPANY, <u>EI 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. 135
Generating Station)	

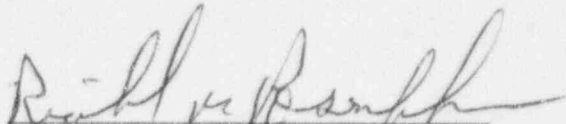
SOUTHERN CALIFORNIA EDISON COMPANY, EI AL. pursuant to 10 CFR 50.90, hereby submit Amendment Application No. 135.

This amendment application consists of Proposed Change Number (PCN)-452 to Facility Operating License No. NPF-15. PCN-452 is a request to revise Unit 3 post PCN-299 (Technical Specification Improvement Program) Specification 3.5.2, "ECCS-Operating," to extend the allowed outage time from 72 hours to 7 days for a single Low Pressure Safety Injection train.

Subscribed on this 8th day of NOVEMBER, 1995.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

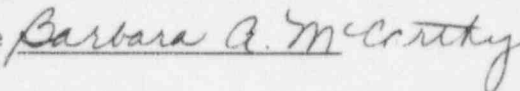
By: 
Richard M. Rosenblum
Vice President

State of California

County of San Diego

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me to be the person whose name is subscribed to the within instrument and
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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-10/15-452

This is a request to revise the San Onofre Units 2 and 3 post PCN-299 (Technical Specification Improvement Program) Technical Specification (TS) 3.5.2, "ECCS-Operating."

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 3.5.2, "ECCS-Operating," the Allowed Outage Time (AOT) for a single Low Pressure Safety Injection (LPSI) train is being extended from 72 hours to 7 days with the other LPSI train operable.

Included in Attachment "C" for Unit 2 and Attachment "D" for Unit 3, respectively, are revised LCO page 3.5-4 and revised Bases pages B3.5-16, B.5-17, B.5-18, and B.5-20a. Due to text overflow, Bases pages B.5-19 and B.5-20 are included for completeness.

BACKGROUND

San Onofre Units 2 and 3 are each equipped with two LPSI trains. A LPSI train consists of one LPSI pump and two injection flow paths, including motor-operated valves. The LPSI trains, in combination with the two High Pressure Safety Injection (HPSI) trains, form the two redundant Emergency Core Cooling (ECCS) subsystems. The two LPSI pumps are high volume, low head centrifugal type pumps designed to inject large quantities of borated water into the Reactor Coolant System (RCS) to flood and cool the core during the early stages of a large break Loss of Coolant Accident (LOCA). During normal shutdown operation (Modes 4, 5, and 6), the LPSI pumps also provide shutdown cooling flow to the reactor core. In this configuration, the LPSI pumps take suction from the RCS hot leg through the Shutdown Cooling Heat Exchanger (SDCHX) and discharge cooler water into the RCS cold leg.

The LPSI pumps take suction from the Refueling Water Storage Tank (RWST) during the injection phase of a LOCA event. The borated water is pumped to a common LPSI discharge header consisting of four injection lines with individual injection valves prior to entering containment. Once inside containment, the LPSI injection lines combine with the HPSI and Safety

Injection Tank (SIT) injection lines and flow is directed independently through each of the four RCS cold legs into the reactor vessel. The LPSI system pumps automatically start and the valves open upon receipt of a Safety Injection Actuation Signal (SIAS). When the RWST inventory is drawn down during the injection phase a low RWST level signal produces a Recirculation Actuation Signal (RAS). The RAS secures the LPSI pumps, opens the Containment Emergency Sump (CES) isolation valves, and shifts the suction of the HPSI pumps and the Containment Spray pumps from the RWST to the CES.

The ECCS is described in Section 6.3 with the LPSI pumps specifically described in Section 6.3.2.2.2 of the San Onofre Units 2 and 3 Updated Final Safety Analysis Report (UFSAR).

DISCUSSION OF CHANGE

The San Onofre Units 2 and 3 Improved Technical Specifications (TSs) address the LPSI as a portion of the ECCS. Post PCN-299 TS 3.5.2 requires two independent ECCS trains to be operable. With one ECCS train inoperable, based upon any component inoperability, the train must be returned to operability within 72 hours. The proposed change will allow up to 7 days to restore one LPSI subtrain to operable status (when the other LPSI subtrain is operable) should that be the cause for ECCS train inoperability.

The Combustion Engineering Owners Group (CEOG) Report CE NPSD-995, "Joint Applications Report for Low Pressure Safety Injection System AOT Extension," supports this change utilizing current Probabilistic Safety Analysis (PSA) methodologies to address the change in risk of the Allowed Outage Time (AOT) extension when compared with the current or the Improved TS time limitations.

The CEOG study considered and categorized the change in risk into "at power risk," "transition risk," and shutdown risk." Consideration of the risk factors impacted by the extension in AOT from 72 hours to 7 days demonstrates a negligible increase in "at power risk" (less than a 0.3% increase in average core damage frequency for all Combustion Engineering (CE) plants and less than a 1.5% increase in average core damage frequency for San Onofre Units 2 and 3). To perform a more comprehensive assessment of the overall change in risk, an accounting for avoided risks associated with reducing power and transitioning to hot or cold shutdown is considered. This "transition risk" is important in understanding the tradeoff between shutting down the plant, to comply with the TS Action Statement, and restoring the LPSI train to operability while at power. Also of importance is the risk avoided based on LPSI system maintenance while in cold shutdown, or "shutdown risk." Each time the plant is placed in cold shutdown, the LPSI system is required for decay heat removal in the shutdown cooling mode of operation. Any maintenance performed on the LPSI system during shutdown cooling operation adds to the risk of losing shutdown cooling. Therefore, performing LPSI system maintenance with the unit on-line, when the LPSI system is not normally in demand, represents a decrease in "shutdown risk."

The result of the CEOG integrated assessment of the overall risk associated with the adoption of the proposed LPSI system AOT extension is that the change in core damage frequency due to this AOT extension is insignificant (less than a 0.3% increase in average core damage frequency for all CE plants and less than a 1.5% increase in average core damage frequency for San Onofre Units 2 and 3). Additionally, there is a reduction in overall plant risk when this increase in risk is offset by the reduction in transition and shutdown risk. It is the conclusion of the CEOG study that the overall plant impact will either be risk beneficial, or at the very least, risk neutral.

As part of the CEOG study an assessment was performed on the impact of the proposed AOT extension on large early release scenarios. The assessments of the three classes of events (containment bypass, severe accidents accompanied by loss of containment isolation, and containment failure associated with energetic events in containment) considered for these scenarios concluded that the increased unavailability of one LPSI train will result in a negligible impact on the large early release probability for San Onofre.

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 Low Pressure Safety Injection (LPSI) system is a part of the Emergency Core Cooling System (ECCS). Inoperable LPSI components are not considered to be accident initiators. Therefore, this change does not involve an increase in the probability of an accident previously evaluated.

The LPSI system is primarily designed to mitigate the consequences of a large Loss of Coolant Accident (LOCA). This proposed change does not affect any of the assumptions used in the deterministic LOCA analysis. Therefore, the consequences of accidents previously evaluated do not change.

To fully evaluate the LPSI 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.

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 change does 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.

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