

August 20, 2001

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

**Subject: Docket Nos. 50-361 and 50-362
Supplement No. 1 to Amendment Application Nos. 209 and 194
Emergency Chilled Water and Control Room Emergency Cleanup System
Allowed Outage Time Extension
San Onofre Nuclear Generating Station Units 2 and 3**

Reference: Letter from Dwight E. Nunn (SCE) to NRC Document Control Desk,
Subject: Docket Nos. 50-361 and 50-362, Amendment Application
Nos. 209 and 194, Emergency Chilled Water and Control Room
Emergency Cleanup System Allowed Outage Time Extension,
dated June 29, 2001

Gentlemen:

This provides Supplement No. 1 to Amendment Application Nos. 209 and 194 (Reference) to revise Technical Specifications 3.7.10, "Emergency Chilled Water (ECW)" and 3.7.11, "Control Room Emergency Air Cleanup System (CREACUS)." These Amendment Applications consist of Proposed Change Number (PCN)-524. This PCN-524 Supplement 1 includes an updated Table 5 using a more realistic alpha factor (common cause beta factor) of 0.03 based on information from EPRI TR-100382, "A Database of Common-Cause Events for Risk and Reliability Applications," dated June 1992. The original alpha factor of 0.11 used to develop the data in Table 5 of the reference was based on NUREG/CR-4780 (EPRI NP-5613), "Procedures for Treating Common Cause Failures in Safety and Reliability Studies," dated February 1988.

In addition, the following errors were identified in the Reference: In Tables 3a, 3b, and 5 of the Reference, the Baseline Core Damage Frequency (CDF) and Large Early Release Frequency (LERF) should be $4.5E-5/\text{yr}$ and $1.7E-6/\text{yr}$, respectively. In Table 5, the Conditional CDF/LERF for Corrective Maintenance (CM) is incorrectly labeled for Preventive Maintenance (PM) in the Reference. Table 5 in the Reference also included an incorrect LERF value of $1.9E-7/\text{yr}$ for the Yearly Allowed Outage Time (AOT) risk for CM (based on the current 7 day AOT). The correct number is $1.9E-6/\text{yr}$. Corrected pages for Tables 3a, 3b, and 5 are enclosed, and as indicated above Table 5 has been updated based on an updated alpha factor. Changes and updates to the tables are identified by change bars.

Accol.

If you have any questions regarding the enclosure, please contact Mr. Jack Rainsberry at (949) 368-7420.

Sincerely,

A handwritten signature in black ink, appearing to read "Jack Rainsberry", with a long horizontal line extending to the right.

Enclosures

cc: E. W. Merschhoff, Regional Administrator, NRC Region IV
J. E. Donoghue, NRC Project Manager, San Onofre Units 2, and 3
C. C. Osterholtz, NRC Senior Resident Inspector, San Onofre Units 2 & 3
S. Y. Hsu, Department of Health Services, Radiologic Health Branch

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA)	
EDISON COMPANY, <u>ET AL.</u> for a Class 103)	Docket No. 50-361
License to Acquire, Possess, and Use)	Supplement 1
a Utilization Facility as Part of)	Amendment Application
Unit No. 2 of the San Onofre Nuclear)	No. 209
Generating Station)	

SOUTHERN CALIFORNIA EDISON COMPANY, et al. pursuant to 10CFR50.90, hereby submit this Supplement No. 1 to Amendment Application No. 209. Amendment Application No. 209 consists of Proposed Change No. NPF-10-524 to Facility Operating License NPF-10. Proposed Change No. NPF-10-524 is a request to revise Technical Specification (TS) 3.7.10, "Emergency Chilled Water (ECW)" and 3.7.11, "Control Room Emergency Air Cleanup System (CREACUS)" and the associated Bases. The proposed change is to revise the Allowed Outage Time (AOT) for a single inoperable train of the ECW and CREACUS systems from 7 days to 14 days. Supplement No. 1 provides updated information based on a revised alpha factor and corrections to the proposed change.

Subscribed on this 20 day of August, 2001.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

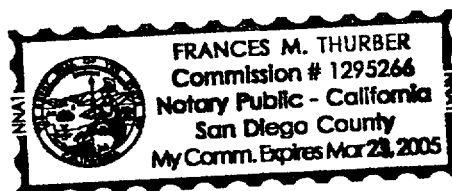
By: 
Dwight E. Nunn
Vice- President
Engineering/Technical Services

State of California

County of San Diego

On Aug. 20, 2001 before me, Frances M. Thurber,
personally appeared Dwight E. Nunn, 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 Frances M. Thurber

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA)	
EDISON COMPANY, <u>ET AL.</u> for a Class 103)	Docket No. 50-362
License to Acquire, Possess, and Use)	Supplement 1
a Utilization Facility as Part of)	Amendment Application
Unit No. 3 of the San Onofre Nuclear)	No. 194.
Generating Station)	

SOUTHERN CALIFORNIA EDISON COMPANY, et al. pursuant to 10CFR50.90, hereby submit this Supplement No. 1 to Amendment Application No. 194. Amendment Application No. 194 consists of Proposed Change No. NPF-15-524 to Facility Operating License NPF-15. Proposed Change No. NPF-15-524 is a request to revise Technical Specification (TS) 3.7.10, "Emergency Chilled Water (ECW)" and 3.7.11, "Control Room Emergency Air Cleanup System (CREACUS)" and the associated Bases. The proposed change is to revise the Allowed outage Time (AOT) for a single inoperable train of the ECW and CREACUS systems from 7 days to 14 days. Supplement No. 1 provides updated information based on a revised alpha factor and corrections to the proposed change.

Subscribed on this 20 day of August, 2001.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

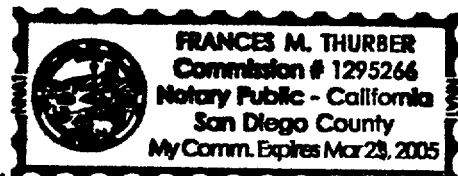
By: 
Dwight E. Nunn
Vice President
Engineering/Technical Services

State of California

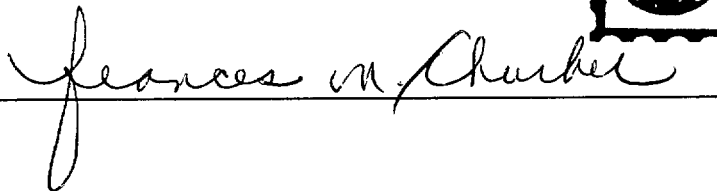
County of San Diego

On Aug. 20, 2001 before me, Frances M. Thurber,
personally appeared Dwight E. Nunn, 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



2.3 Evaluation of Risk Impact

The evaluation of the risk impact of the proposed changes followed the three-tiered approach outlined in Regulatory Guide 1.77.

Tier 1: Probabilistic Risk Analysis (PRA) Capability and Insights

The SONGS Living PRA model was used to assess the risk impact of the proposed change. As described below, this model reflects the as-built design and operation of the plant and is capable of assessing the risk impact of the proposed change. The impact of the proposed change on core damage frequency (CDF), incremental conditional core damage probability (ICCDP), large early release frequency (LERF), and incremental conditional large early release probability (ICLERP) were assessed. The results are provided in Tables 3 through 6.

Table 3a
SONGS Conditional CDF & LERF Contributions for
Preventive Maintenance (PM) for Emergency Chilled Water

	CDF	LERF
Present Allowed Outage Time (AOT)	7 days	
Proposed AOT	14 days	
Baseline (CDF/LERF)	4.5E-5/yr	1.7E-6/yr
Conditional CDF/LERF for PM (1 Train always unavailable)	6.4E-5/yr	3.1E-6/yr
Conditional CDF/LERF for PM (1 Train always available)	4.3E-5/yr	1.7E-6/yr
Increase in CDF/LERF for PM	2.1E-5/yr	1.4E-6/yr
Single AOT Risk (ICCDP/ICLERP) for PM (based on current 7 day AOT)	4.0E-7	2.6E-8
Single AOT Risk (ICCDP/ICLERP) for PM (based on proposed 14 day AOT)	8.1E-7	5.3E-8
Downtime Frequency for PM*	4.7 events/yr	
Yearly AOT Risk for PM (based on current 7 day AOT)	1.9E-6/yr	1.2E-7/yr
Yearly AOT Risk for PM (based on proposed 14 day AOT)	3.8E-6/yr	2.5E-7/yr
Mean Duration for PM	70.9 hours/event	
Single AOT Risk for PM (based on mean duration)	1.7E-7	1.1E-8
Yearly AOT Risk for PM (based on mean duration)	8.0E-7/yr	5.2E-8/yr

*Frequency represents the combined downtime frequency of both trains.

Table 3b
SONGS Conditional CDF & LERF Contributions for
Preventive Maintenance (PM) for CREACUS

	CDF	LERF
Present Allowed Outage Time (AOT)	7 days	
Proposed AOT	14 days	
Baseline (CDF/LERF)	4.5E-5/yr	1.7E-6/yr
Conditional CDF/LERF for PM (1 Train always unavailable)	6.2E-5/yr	2.8E-6/yr
Conditional CDF/LERF for PM (1 Train always available)	4.7E-5/yr	1.8E-6/yr
Increase in CDF/LERF for PM	1.5E-5/yr	9.7E-7/yr
Single AOT Risk (ICCDP/ICLERP) for PM (based on current 7 day AOT)	2.9E-7	1.9E-8
Single AOT Risk (ICCDP/ICLERP) for PM (based on proposed 14 day AOT)	5.8E-7	3.7E-8
Downtime Frequency for PM*	5.72 events/yr	
Yearly AOT Risk for PM (based on current 7 day AOT)	1.7E-6/yr	1.1E-7/yr
Yearly AOT Risk for PM (based on proposed 14 day AOT)	3.3E-6/yr	2.1E-7/yr
Mean Duration for PM	64.9 hours/event	
Single AOT Risk for PM (based on mean duration)	1.1E-7	7.1E-9
Yearly AOT Risk for PM (based on mean duration)	6.4E-7/yr	4.1E-8/yr

*Frequency represents the combined downtime frequency of both trains.

Table 5
SONGS Conditional CDF & LERF Contributions for Corrective Maintenance (CM)
of Emergency Chilled Water

	CDF	LERF
Present Allowed Outage Time (AOT)	7 days	
Proposed AOT	14 days	
Baseline (CDF/LERF)	4.5E-5/yr	1.7E-6/yr
Conditional CDF/LERF for CM (1 Train always unavailable, common cause failure rate for other Train set to common cause beta factor)	8.3E-5/yr	4.3E-6/yr
Conditional CDF/LERF for CM (1 Train always available)	4.3E-5/yr	1.7E-6/yr
Increase in CDF/LERF for CM	4.0E-5/yr	2.7E-6/yr
Single AOT Risk for CM (based on current 7 day AOT)	7.6E-7	5.1E-8
Single AOT Risk for CM (based on proposed 14 day AOT)	1.5E-6	1.0E-7
Downtime Frequency for CM	8.3 events/yr	
Yearly AOT Risk for CM (based on current 7 day AOT)	6.3E-6/yr	4.2E-7/yr
Yearly AOT Risk for CM (based on proposed 14 day AOT)	1.3E-5/yr	8.4E-7/yr
Mean Duration for CM	49 hours/event	
Single AOT Risk for CM (based on mean duration)	2.2E-7/yr	1.5E-8/yr
Yearly AOT Risk for CM (based on mean duration)	1.8E-6/yr	1.2E-7/yr

A parametric uncertainty analysis was performed to determine if any parameter uncertainties influenced the results. Table 6 provides the results of the uncertainty analysis. The results do not indicate any unexpected parameter uncertainties.

Table 6
SONGS Uncertainty for Combined ECW and CREACUS AOT Change

	Mean (from uncertainty)	Median (50% confidence level)	5% confidence level	95% confidence level
Baseline average CDF	7.6E-5/yr	5.0E-5/yr	2.5E-5/yr	1.7E-4/yr
Proposed Average CDF	8.2E-5/yr	5.2E-5/yr	2.6E-5/yr	2.0E-4/yr