

October 4, 2001

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

SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3 -
ISSUANCE OF AMENDMENTS ON EMERGENCY CHILLED WATER AND
CONTROL ROOM EMERGENCY CLEANUP SYSTEM ALLOWED OUTAGE
TIME EXTENSION (TAC NOS. MB2315 AND MB2316)

Dear Mr. Ray:

The Commission has issued the enclosed Amendment No. 181 to Facility Operating License No. NPF-10 and Amendment No. 172 to Facility Operating License No. NPF-15 for San Onofre Nuclear Generating Station, Units 2 and 3, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated June 29, 2001, as supplemented by letter dated August 20, 2001.

The amendments revise TSs 3.7.10, "Emergency Chilled Water (ECW)" and 3.7.11, "Control Room Emergency Air Cleanup System (CREACUS)" and the associated TSs Bases for each unit. The amendments revise the Allowed Outage Time for a single inoperable train of both the ECW and CREACUS from 7 days to 14 days.

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,

/RA/

Michael L. Scott, Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

Enclosures: 1. Amendment No. 181 to NPF-10
2. Amendment No. 172 to NPF-15
3. Safety Evaluation

cc w/encls: See next page

October 4, 2001

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

SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3 -
ISSUANCE OF AMENDMENTS ON EMERGENCY CHILLED WATER AND
CONTROL ROOM EMERGENCY CLEANUP SYSTEM ALLOWED OUTAGE
TIME EXTENSION (TAC NOS. MB2315 AND MB2316)

Dear Mr. Ray:

The Commission has issued the enclosed Amendment No. 181 to Facility Operating License No. NPF-10 and Amendment No. 172 to Facility Operating License No. NPF-15 for San Onofre Nuclear Generating Station, Units 2 and 3, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated June 29, 2001, as supplemented by letter dated August 20, 2001.

The amendments revise TSs 3.7.10, "Emergency Chilled Water (ECW)" and 3.7.11, "Control Room Emergency Air Cleanup System (CREACUS)" and the associated TSs Bases for each unit. The amendments revise the Allowed Outage Time for a single inoperable train of both the ECW and CREACUS from 7 days to 14 days.

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,

/RA/

Michael L. Scott, Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

- Enclosures: 1. Amendment No. 181 to NPF-10
2. Amendment No. 172 to NPF-15
3. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION

PUBLIC RidsNrrDripRtsb (W. Beckner) MRubin
PDIV-2 r/f RidsAcrcAcnwMailCenter GHubbard
G. Hill (4) RidsOgcRp JDonoghue
RidsNrrDlpmLpdiv (S. Richards) RidsRgn4MailCenter (K. Kennedy, L. Hurley, D. Bujol)
RidsNrrPMMScott M. Wohl
RidsNrrLAMMcAllister

***SEE PREVIOUS CONCURRENCE**

PACKAGE: ML012840154 TS PAGES: ML012780191 & ML012780196 NRR-100

ACCESSION NO: ML012610081

NRR-058

OFFICE	PDIV-2/PM	PDIV-2/PM	PDIV-1/LA	DSSA/SPSB	DSSA/SPLB	DRIP/RTSB	OGC*	PDIV-2/SC
NAME	JDonoghue	MScott	MMcAllister	MRubin*	BThomas for GHubbard*	WBeckner*	RHoefling	SDembek
DATE	10/2/2001	10/2/01	10/2/01	09/19/01	9/17/01	09/20/01	09/24/01	10/3/01

San Onofre Nuclear Generating Station, Units 2 and 3

cc:

Mr. R. W. Krieger, Vice President
Southern California Edison Company
San Onofre Nuclear Generating Station
P. O. Box 128
San Clemente, CA 92674-0128

Mr. Douglas K. Porter
Southern California Edison Company
2244 Walnut Grove Avenue
Rosemead, CA 91770

Mr. David Spath, Chief
Division of Drinking Water and
Environmental Management
P. O. Box 942732
Sacramento, CA 94234-7320

Chairman, Board of Supervisors
County of San Diego
1600 Pacific Highway, Room 335
San Diego, CA 92101

Alan R. Watts, Esq.
Woodruff, Spradlin & Smart
701 S. Parker St. No. 7000
Orange, CA 92668-4720

Mr. Sherwin Harris
Resource Project Manager
Public Utilities Department
City of Riverside
3900 Main Street
Riverside, CA 92522

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

Mr. Michael Olson
San Onofre Liaison
San Diego Gas & Electric Company
P.O. Box 1831
San Diego, CA 92112-4150

Mr. Steve Hsu
Radiologic Health Branch
State Department of Health Services
Post Office Box 942732
Sacramento, CA 94327-7320

Mr. Ed Bailey, Radiation Program Director
Radiologic Health Branch
State Department of Health Services
Post Office Box 942732 (MS 178)
Sacramento, CA 94327-7320

Resident Inspector/San Onofre NPS
c/o U.S. Nuclear Regulatory Commission
Post Office Box 4329
San Clemente, CA 92674

Mayor
City of San Clemente
100 Avenida Presidio
San Clemente, CA 92672

Mr. Dwight E. Nunn, Vice President
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

Mr. Robert A. Laurie, Commissioner
California Energy Commission
1516 Ninth Street (MS 31)
Sacramento, CA 95814

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 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 181

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 June 29, 2001, as supplemented by letter dated August 20, 2001, 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-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. 181, 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 issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Stephen Dembek, Chief, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: October 4, 2001

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 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 172

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 June 29, 2001, as supplemented by letter dated August 20, 2001, 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. 172 , 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 issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Stephen Dembek, Chief, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: October 4, 2001

ATTACHMENT TO LICENSE AMENDMENT NO.181

FACILITY OPERATING LICENSE NO. NPF-10

DOCKET NO. 50-361

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3.7-22

3.7-24

INSERT

3.7-22

3.7-24

ATTACHMENT TO LICENSE AMENDMENT NO. 172

FACILITY OPERATING LICENSE NO. NPF-15

DOCKET NO. 50-362

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3.7-22
3.7-24

INSERT

3.7-22
3.7-24

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. NPF-10
AND AMENDMENT NO. 172 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 June 29, 2001, as supplemented by letter dated August 20, 2001, Southern California Edison Company, et al. (SCE or the licensee) requested changes to the Technical Specifications (TSs) for San Onofre Nuclear Generating Station, (SONGS) Units 2 and 3. The proposed changes would revise TSs 3.7.10, "Emergency Chilled Water (ECW)" and 3.7.11, "Control Room Emergency Air Cleanup System (CREACUS)" and the associated TSs Bases for each unit. The amendments revise the Allowed Outage Time (AOT) for a single inoperable train of both the ECW and CREACUS from 7 days to 14 days.

The supplemental letter dated August 20, 2001, contained clarifying information and did not expand the scope of the proposed amendment as described in the Notice of Consideration of Issuance of Amendment to Facility Operating License and Opportunity for Hearing in connection with this action that was published in the *Federal Register* on August 22, 2001 (66 FR 44175).

TS 3.7.10 allows one train of ECW to be inoperable for 7 days. Similarly, TS 3.7.11 allows one train of CREACUS to be inoperable for 7 days. In both TSs 3.7.10 and 3.7.11, if the 7-day AOT is exceeded, the TSs require the plant to be in Mode 3 in 6 hours and Mode 5 in 36 hours. Since the ECW and CREACUS are systems that are shared by both Units 2 and 3, the shutdown actions would result in the shutdown of both Units 2 and 3.

The licensee has planned a major maintenance overhaul of both chillers in the ECW system. This overhaul requires removing a chiller from service, resulting in one ECW train being inoperable and one corresponding CREACUS train being inoperable. Failure to complete the overhaul within the existing 7-day AOT would result in the shutdown of both Units 2 and 3. The extension of the AOT for the ECW and CREACUS trains provides additional time to perform the planned maintenance. Approval of these proposed changes would allow ample time for the licensee to complete the overhaul before exceeding the AOT, thus avoiding a potential dual unit shutdown.

The licensee developed a probabilistic risk assessment (PRA) of the ECW and CREACUS systems to support these proposed changes using the guidance provided in Regulatory Guide (RG) 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications."

2.0 EVALUATION

2.1 Emergency Chilled Water System

The ECW system is shared between SONGS Units 2 and 3. Under emergency conditions this system provides chilled water to the various air cooling units located in Units 2 and 3. The 100 percent redundant trains (A and B) each consist of a pump and a package chiller. Each train has 100 percent of the required heat removal capacity to perform its intended safety function. The system is not normally in operation, and is automatically started by a Control Room Isolation Signal (CRIS), a Toxic Gas Isolation Signal (TGIS), a Safety Injection Actuation Signal (SIAS), or a Fuel Handling Isolation Signal from either Unit 2 or 3. The ECW system operates in a closed-loop mode. A single active failure in either train will not affect the functional capability of the other train. The system is described in the SONGS Units 2 and 3 Updated Final Safety Analysis Report (UFSAR) Section 9.4.2.2, "Emergency Operation - Auxiliary Building VAC Systems.

In each train, chilled water is pumped by the chilled water pump to the chiller unit. The chiller unit is composed of a compressor, cooler, condenser, and oil cooler. The chiller unit removes heat from the chilled water, and the chilled water flows through the various cooling coils for Units 2 and 3. The heat removed by the chiller unit is in turn removed by the component cooling water system. The chilled water returns from the various cooling coils to the suction of the chilled water pump.

ECW is supplied to cooling coils in the Auxiliary and Safety Equipment Buildings, to areas including the control room, the fuel handling building, emergency core cooling system pump rooms, component cooling water pump rooms and associated support areas. The ECW system interfaces with CREACUS in the control room area. An inoperable ECW train also results in an inoperable air conditioning unit in a CREACUS train.

The licensee's submittal listed the regular preventive maintenance activities for the chiller and the chilled water pump. These maintenance activities are typically performed within the 7 day AOT. Over the 36 month period from February 1998 through January 2001, the licensee stated that there were no failures associated with the chiller unit in Train A. The licensee listed 6 failures associated with the chiller unit Train B over the 36-month period.

2.2 Control Room Emergency Air Cleanup System

The control room emergency air cleanup system (CREACUS) is shared between SONGS Units 2 and 3. The system has two 100 percent complete and redundant subsystems. Each subsystem consists of one emergency ventilation supply unit and one emergency air conditioning unit. The emergency ventilation supply unit has high efficiency particulate air and activated charcoal filters through which fresh air is added to the recirculating circuit of the emergency air conditioning unit. The control room emergency air conditioning system is automatically switched to the emergency mode on a CRIS (or SIAS). A TGIS automatically switches the emergency air conditioning system to the isolation mode. A CRIS or TGIS also

actuates the ECW system. The system is described in SONGS Units 2 and 3 UFSAR Section 9.4.2.2, "Emergency Operation - Auxiliary Building VAC Systems."

Supply air is cooled and discharged through a duct system into the control room and associated support areas, such as computer rooms, the central alarm station, and offices.

The regular preventive maintenance activities for the CREACUS were listed in the licensee's submittal. These activities are typically performed within the 7-day AOT. The licensee identified eight functional failures of CREACUS components since November 1996 and described them in the submittal.

2.3 Compliance with Current Regulations

The proposed change to the TSs extends the allowed outage time from 7 days to 14 days for both trains of ECW and CREACUS. The TSs for SONGS 2 and 3 are based on the NUREG-1432, "Standard Technical Specifications - Combustion Engineering Reactors," September 1992.

The control room habitability systems, which include ECW and CREACUS, were reviewed by the NRC and the results documented in NUREG-0712, "Safety Evaluation Report Related to the Operation of San Onofre Nuclear Generating Station Units 2 and 3."

2.4 Defense-in-Depth

The ECW and CREACUS systems are required to operate under emergency conditions during a design-basis event. The proposed change is to extend the AOT for a single train in both the ECW and CREACUS systems. The proposed change does not affect the ECW and CREACUS performance during design-basis events as described in the UFSAR. The ECW provides chilled water to various air conditioning systems to maintain room cooling for equipment operation or operator performance. The two trains of ECW provide chilled water to the air conditioning units of the respective CREACUS trains. The CREACUS isolates the control room envelope and provides filtered cool air to the control room envelope during design-basis events. The ECW and CREACUS systems support other systems, components, and operator actions that provide safety functions to mitigate the consequences of a design-basis accident (DBA). The ECW and CREACUS systems are required to mitigate the consequences of a DBA, thus maintaining defense-in-depth.

Following the guidance provided in RG 1.177, the impact of the proposed TS change on defense-in-depth was addressed by the licensee in the submitted information. The licensee provided discussions supporting the following criteria contained in RG 1.177:

- A reasonable balance among prevention of core damage, prevention of containment failure, and consequence mitigation is preserved.
- Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided.
- System redundancy, independence, and diversity are preserved commensurate with the expected frequency and consequences of challenges to the system (e.g., no risk outliers).

- Defenses against potential common cause failures are preserved and the potential for introduction of new common cause failure mechanisms is assessed.
- Independence of physical barriers is not degraded.
- Defenses against human errors are preserved.
- The intent of the General Design Criteria in 10 CFR Part 50, Appendix A is maintained.

2.5 Safety Margins

This proposed change is to extend the AOT for both an ECW and a CREACUS train. The design of the ECW and CREACUS systems is not changed. The codes and standards which govern the design of the systems are not affected by this change. Since the proposed change does not modify the design of the ECW and CREACUS systems, the systems will continue to perform as described in the UFSAR. The safety analysis in the UFSAR is not affected since both the ECW and CREACUS are designed to perform their safety function with one train.

2.6 Evaluation of Risk-Informed Insights

The NRC staff used the three-tiered approach discussed in RG 1.177 to evaluate the change proposed by the licensee based on risk information in the licensee's submittal.

Tier 1: Probabilistic Risk Assessment Insights

The SONGS Living PRA model was used to assess the risk impacts of the proposed AOT changes (to 14 days for ECW and CREACUS). The licensee states that this model reflects the as-built design and operation of the plant and is capable of assessing the risk impacts of the proposed changes. The ECW being out of service will render the CREACUS out of service, while the converse is not true. The incremental conditional core damage probability (ICCDP) for preventive maintenance for the ECW is $8.1 \text{ E-}07$, while the corresponding incremental large early release probability (ICLERP) is $5.3 \text{ E-}08$. Both of these are close to the RG 1.177 guideline values of $5.0 \text{ E-}07$ and $5.0 \text{ E-}08$, respectively. The increase in core damage frequency for ECW preventive maintenance is $2.1 \text{ E-}05/\text{yr}$ and that for LERF is $1.4 \text{ E-}06/\text{yr}$. These increases are slightly above the guidelines contained in RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions On Plant-Specific Changes to the Licensing Basis" that the NRC staff normally considers. In the case of this proposal, however, the alternative to the proposed change is to maintain the current AOTs of 7 days and, in the event that the AOTs are exceeded during the overhaul of the ECW chillers, both Units 2 and 3 would have to be shut down. Shutdown of both units would introduce transition and shutdown risk considerations. It is the NRC staff's judgment that the net risk impact is acceptable when elimination of possible transition and shutdown impact is considered.

The CREACUS ICCDP is $5.8 \text{ E-}07$ (preventive maintenance), close to the RG 1.177 guideline. The corresponding ICLERP (preventive maintenance) is $3.7 \text{ E-}08$, within the RG 1.177 guideline value. The corresponding increases in core damage frequency and large early release frequency of $1.5 \text{ E-}05/\text{yr}$ and $9.7 \text{ E-}07/\text{yr}$ either meet or are very close to the risk guideline values and are acceptable because they additionally avoid possible transition and shutdown risks impacting both units.

Tier 2: Avoidance of Risk-Significant Plant Configurations

The licensee has performed a review of potential risk-significant plant configurations which could occur when the affected systems are out of service. A review was performed of risk achievement worth importance ranking of other components which could be out of service during the AOT. The review identified the normal chilled water system as a very risk-significant system when an ECW system train is inoperable. This indicates that the normal chilled water system should not be voluntarily removed from service when an emergency chilled water system train is also out of service. Therefore, the licensee states that it will implement administrative controls to ensure that preventive maintenance on an ECW system train is not performed simultaneously with a planned outage of the normal chilled water system. The NRC staff finds that reasonable controls for the implementation and for subsequent evaluation of proposed changes pertaining to the above regulatory commitment are best provided by the licensee's administrative processes including its commitment management program. The above regulatory commitment does not warrant the creation of a regulatory requirement (item requiring prior NRC approval of subsequent changes).

Tier 3: Configuration Risk Management

A Configuration Risk Management Program is implemented at SONGS in accordance with Regulatory Guide 1.177 in SONGS TS 5.5.2.14 to partially justify risk-informed changes to other SONGS TSs. In addition, the licensee has enhanced its Configuration Risk Management Program to comply with the Maintenance Rule [10 CFR 50.65(a)(4)], RG 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants," and NUMARC 93-01 Rev. 3, "Industry Guideline for Monitoring Effectiveness of Maintenance at Nuclear Power Plants," and RG 1.177.

2.6.1 PRA Quality and External Events

The licensee assessed the risks associated with the proposed changes using the SONGS Living PRA as modeled in the WINNUPRA 2.0 software (i.e., the Windows version of the Probabilistic Risk Assessment Code documented in "WINNUPRA Users Manual, Version 2.0," April 2000, SCIENTECH, Inc.). The SONGS Living PRA is a level 1 and 2 PRA model that includes all significant internal and external initiating events. The affected systems and their support systems include ECW, CREACUS, Component Cooling Water, Saltwater Cooling, Class 1E AC Electrical, Class 1E DC Electrical, and safety-related Heating, Ventilation, and Air Conditioning systems. Also, the nonsafety-related systems which provide normal functions redundant to these safety-related systems are all modeled at the component level. Plant-specific data were evaluated for the affected systems. The SONGS Living PRA was derived from the Individual Plant Examination and Individual Plant Examination for External Events, and has been enhanced to support its use in the SONGS Safety Monitor for Implementation of the SONGS Configuration Risk Management Program and Maintenance Rule [10 CFR 50.65 (a)(4)] monitoring.

The licensee has implemented several measures in the development of the SONGS 2 and 3 PRA to ensure quality. Changes in the model that impact assumptions, success criteria, basic event probabilities, and system and plant models formally undergo several levels of review, and, depending on the complexity of the change, may also include peer and/or technical expert panel review.

A comprehensive independent peer review of the SONGS 2 and 3 Level 1 and Level 2 internal events living PRA for full power and shutdown operations was conducted between August 1996 and April 1997 by SCIENTECH, Inc. During this review, documents, procedures, and supporting calculations and analyses were available. The review was based primarily on the

guidance provided in the PRA procedures guides, such as NUREG/CR-2300, "PRA Procedures Guide: A Guide to the Performance of PRAs for Nuclear Power Plants," and NUREG/CR-4550, Vol. 1, Rev. 1, "Analysis of Core Damage Frequency," as well as PRA applications documents, such as EPRI TR-105396, "PSA Applications Guide" and NUREG-1489, "Review of NRC Staff Uses of PRA." The results of all independent review activities performed by internal and external reviewers were documented in the SCE PRA Change Package process and tracked in the PRA Punch List Database.

In addition to extensive internal and external peer review, these refined full-scope models were used by the licensee to support technical specification AOT changes for the SONGS 2 and 3 Diesel Generators, Low Pressure Safety Injection System, Containment Spray System, Containment Isolation Valves, and Safety Injection Tanks. In addition, the SONGS PRA models were used to support major risk-informed changes to the Inservice Testing Program at SONGS.

In summary, with respect to PRA quality, the SONGS PRA has been subjected to extensive review. The PRA model, assumptions, database changes, improvements, and computer code are controlled and documented by administrative procedure. The model and database reflect the as-built design and the most recent historical data, according to the licensee. The NRC staff judges that the SONGS PRA is of a quality consistent with that required to perform accurate evaluations for this application.

2.6.2 Risk-Informed Insights Conclusions

The NRC staff concludes that a 14-day AOT for ECW and CREACUS is justified based upon the information provided by the licensee, and that the licensee's Maintenance Rule Program (Tier 3/configuration risk management program) provides an extra level of protection against not meeting established performance criteria. Additionally, the risk generated by dual plant shutdown, including transition and shutdown risk, is to be avoided if reasonably possible.

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 change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 (66 FR 44175). 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.

Principal Contributors: J. Donoghue
M. Wohl

Date: October 4, 2001