SOUTHERN CALIFORNIA
EDISON
An *EDISON INTERNATIONAL*SM Company

Dwight E. Nunn
Vice President

March 30, 2000

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington D.C. 20555

Subject: **Docket Nos. 50-361 and 50-362**
Amendment Application Nos. 198 and 183
Containment Spray Allowed Outage Time Extension
San Onofre Nuclear Generating Station Units 2 and 3

Reference: Letter dated December 21, 1999 from S. A. Richards (NRC) to R. Phelps (CEOG), Subject: "Acceptance for Referencing of CE NPSD-1045, 'Joint Applications Report, Modifications to the Containment Spray System, and the Low Pressure Safety Injection System Technical Specifications'"

Gentlemen:

Enclosure 1 to this letter provides Amendment Application Nos. 198 and 183 to Facility Operating Licenses NPF-10 and NPF-15, for the San Onofre Nuclear Generating Station (SONGS), Units 2 and 3, respectively. The Amendment Applications consist of Proposed Change Number 515 (PCN-515).

PCN-515 is a request to revise Technical Specification 3.6.6.1, "Containment Spray and Cooling Systems" and the associated Bases. The proposed change is to revise the Allowed Outage Time (AOT) for a single inoperable train of the Containment Spray system from 72 hours to 7 days. This license amendment is a collaborative effort by participating Combustion Engineering Owners Group (CEOG) members based on an integrated review and assessment of plant operations, deterministic and design basis considerations, and plant risk. The NRC has provided a Safety Evaluation Report (Reference) of this effort, which states that the Containment Spray AOT extension portion is acceptable for referencing in licensing applications.

Southern California Edison requests approval of these Amendment Applications by October 1, 2000, to support planning efforts for the Unit 2 Cycle 11 refueling outage.

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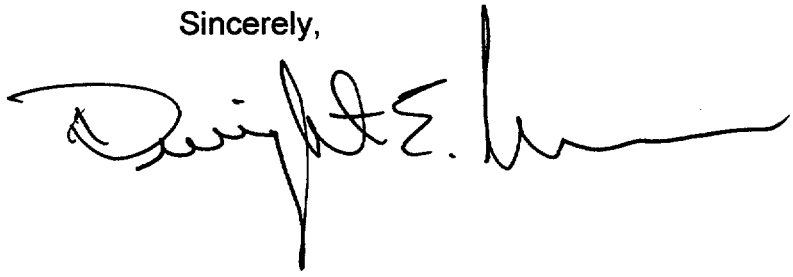
A001

If you need additional information on this Technical Specification change request, please let me know.

Sincerely,



Enclosures

cc: E. W. Merschoff, Regional Administrator, NRC Region IV
J. A. Sloan, NRC Senior Resident Inspector, San Onofre Units 2 & 3
L. Raghavan, NRC Project Manager, San Onofre Units 2 and 3
S. Y. Hsu, Department of Health Services, Radiologic Health Branch

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 No. 2 of the San Onofre Nuclear Generating Station	)))))	Docket No. 50-361 Amendment Application No. 198

SOUTHERN CALIFORNIA EDISON COMPANY, et al. pursuant to 10CFR50.90, hereby submit Amendment Application No. 198. This amendment application consists of Proposed Change No. NPF-10-515 to Facility Operating License No. NPF-10. Proposed Change No. NPF-10-515 is a request to revise Technical Specification 3.6.6.1, "Containment Spray and Cooling Systems" and the associated bases. The proposed change is to revise the Allowed Outage Time (AOT) for a single inoperable train of the Containment Spray system from 72 hours to 7 days.

Subscribed on this 30th day of March, 2000.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By: Dwight E. Nunn

Dwight E. Nunn
Vice President

State of California
County of San Diego
On 3/30/00 before me Mariane Sanchez, 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 Mariane Sanchez

MARIANE SANCHEZ
Commission #1196482
Notary Public - California
San Diego County
My Comm. Expires Oct 14, 2002

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 No. 3 of the San Onofre Nuclear Generating Station	)))))	Docket No. 50-362 Amendment Application No. 183

SOUTHERN CALIFORNIA EDISON COMPANY, et al. pursuant to 10CFR50.90, hereby submit Amendment Application No. 183. This amendment application consists of Proposed Change No. NPF-15-515 to Facility Operating License No. NPF-15. Proposed Change No. NPF-15-515 is a request to revise Technical Specification 3.6.6.1, "Containment Spray and Cooling Systems" and the associated bases. The proposed change is to revise the Allowed Outage Time (AOT) for a single inoperable train of the Containment Spray system from 72 hours to 7 days.

Subscribed on this 30th day of March, 2000.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By: _____
Dwight E. Nunn
Vice President

State of California
County of San Diego
On 3/30/00 before me, Mariane Sanchez, 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 _____

MARIANE SANCHEZ
Commission #1196482
Notary Public - California
San Diego County
My Comm. Expires Oct 14, 2002

ENCLOSURE 1

PCN NPF-10/15-515
Containment Spray System
Allowed Outage Time Extension

DESCRIPTION
OF PROPOSED CHANGE NPF-10/15-515
CONTAINMENT SPRAY ALLOWED OUTAGE TIME EXTENSION
SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3

This proposed change is a request to revise Technical Specification 3.6.6.1, "Containment Spray and Cooling Systems" and the associated Bases. The proposed change is to revise the Allowed Outage Time (AOT) for a single inoperable train of the Containment Spray system from 72 hours to 7 days.

Existing Technical Specifications

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

Proposed Technical Specifications

Unit 2: See Attachment "C" (Redline and Strikeout shown)
Unit 3: See Attachment "D" (Redline and Strikeout shown)

Proposed Technical Specifications

Unit 2: See Attachment "E"
Unit 3: See Attachment "F"

Proposed Bases Pages

Unit 2: See Attachment "G"
Unit 3: See Attachment "H"

DESCRIPTION OF CHANGES:

This proposed change is a request to revise Technical Specification 3.6.6.1, "Containment Spray and Cooling Systems" and the associated Bases. The proposed change is to revise the Allowed Outage Time (AOT) for a single inoperable train of the Containment Spray system from 72 hours to 7 days.

The following changes are proposed for the Containment Spray System as described in TS 3.6.6.1:

1) The Allowed Outage Time (AOT) for a single train of Containment Spray (Condition A of LCO 3.6.6.1) is extended from 72 hours to 7 days.

2) The Combined AOT of 10 days which appears in both Conditions A and C of LCO 3.6.6.1 is extended from 10 days to 14 days.

3) The Bases of TS 3.6.6.1 are revised to reflect the changes described above.

BACKGROUND:

System Description

San Onofre Units 2 and 3 each have two trains of Containment Spray. Each train of Containment Spray consists of a containment spray pump, spray headers, nozzles, valves, and piping. The design function of the containment spray system is to reduce the containment pressure and temperature and to reduce the concentration of fission products in the containment atmosphere during a Design Basis Accident (DBA). Each train of Containment Spray is capable of providing adequate spray to meet 50% of the system design requirements for containment heat removal and 100% of the system design requirements for iodine removal.

For purposes of containment cooling to reduce the post-accident containment temperature and pressure, the containment spray system is redundant to the containment cooling system. The containment cooling system also has two trains, each of which are capable of providing 50% of the system design requirements for containment heat removal.

Existing Technical Specification (TS) 3.6.6.1 Condition A provides remedial actions and Completion Times (AOTs) for one train of Containment Spray inoperable. In this condition, the remedial action is to restore the inoperable train to service. The AOT for this condition is 72 hours AND within 10 days from discovery of failure to meet the Limiting Condition for Operation (LCO). This proposed change will increase the AOT to 7 days AND 14 days from discovery of failure to meet the LCO. A similar change from 10 to 14 days for the overall AOT for Condition C (one train of Containment Cooling inoperable) is made to reflect the Containment Spray AOT extension. The Bases for TS 3.6.6.1 are revised to reflect these changes.

DISCUSSION

There is no change to the design or operation of the Containment Spray System. However, this change will affect the availability of the Containment Spray System. To evaluate the effects of this proposed change, a Probabilistic Safety Analysis (PSA) was performed. This PSA conforms to the model reviewed and approved by the NRC by letter dated December 21, 1999, "Acceptance for referencing of CE NPSD-1045, 'Joint

Applications Report, Modifications to the Containment Spray System, and the Low Pressure Safety Injection System Technical Specifications.'"

As stated in the NRC's Safety Evaluation Report, there are five principles that must be addressed to aid in the staff's risk-informed decision-making process. A discussion of these principles appears below:

Compliance with Current Regulations

The proposed change provides expanded time limits for operation with a single train of Containment Spray inoperable. The proposed change is in compliance with all current regulations and orders while meeting all license conditions.

The risk-informed assessment herein considers issues associated with the LCO change by evaluating the impact of the modified LCO on the plant design basis. Evaluations are in accordance with Regulatory Guide (RG) 1.174 and RG 1.177 (References 1 and 2) for the treatment of risk-informed changes to the plant Technical Specifications. This assessment confirms that the LCO change maintains adequate Defense-In-Depth by demonstrating capability of the plant to meet the intent of the plant design basis. In addition, Defense-in-Depth is assured by demonstrating margin to core damage and/or radiation release. Therefore, the proposed changes to the Containment Spray LCO are in compliance with all current regulations while meeting all license conditions.

Defense-in-Depth

Following the guidance provided in Regulatory Guide (RG) 1.177, the impact of the proposed Technical Specification (TS) change on the defense-in-depth is addressed below. Based on the following discussion, it is concluded that the proposed TS change meets the defense-in-depth principle.

A reasonable balance among prevention of core damage, prevention of containment failure, and consequence mitigation is preserved.

The proposed Technical Specification (TS) change preserves the existing balance between prevention of core damage, prevention of containment failure, and consequence mitigation by having a minimal impact on the likelihood of core damage and containment failure. The calculated increases in core damage associated with the TS change were shown to be small and within the acceptance criteria in RGs 1.174 and 1.177, as shown in Combustion Engineering Owners Group (CEOG) Report CE NPSD-

1045 and in this report. Therefore, the impact of the proposed change in prevention of core damage is bounded by the current system AOTs.

Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided.

The proposed TS change does not introduce or increase any weaknesses in plant design. The San Onofre Units 2 and 3 Containment Spray System affected by this change is of standard CE plant design. The purpose of the proposed TS change is to provide the capability to perform on-line maintenance on the Containment Spray System, without requiring shutdown for maintenance requiring greater than 72 hours. There are no design weaknesses in the subject system.

System redundancy, independence, and diversity are preserved commensurate with the expected frequency and consequences of challenges to the system (e.g., no risk outliers).

The proposed change does not affect system design redundancy, independence, or diversity. The Containment Spray System is a system with a high degree of redundancy and diversity. With a single train of Containment Spray unavailable, the containment heat removal (CHR) function can be performed by either the available Containment Spray train or an operable Containment Cooling train. With a single train of Containment Spray unavailable, the post-accident fission product removal function can be performed by the available Spray train. An overview of this design is provided in CE NPSD-1045. Therefore, system redundancy, independence, and diversity are unaffected by the change.

Defenses against potential common cause failure are preserved and the potential for introduction of new common cause failure mechanisms is assessed.

The proposed change does not affect the design of the plant, the type of planned maintenance/testing, or the frequency of planned maintenance/testing on the subject Containment Spray system. The proposed change does allow additional time for maintenance on the Containment Spray system to be performed on-line versus during shutdown. There is no data or basis to conclude that performing on-line maintenance on the containment spray system will introduce any new common cause failure mechanisms.

Independence of barriers is not degraded.

The proposed change does not affect the design of the plant or the independence of fission product barriers. The change has no impact on the containment barrier since both the current and proposed TS permit the maintenance of the Containment Spray

System on-line, and diverse/redundant systems/trains are available to perform the containment cooling function and the post-accident fission product removal function.

Defenses against human errors are preserved.

Performing on-line maintenance during non-outage periods can be effectively scheduled using in-house personnel, reducing interference with usually very busy outage activities. This would reduce the potential for human errors. There is no data or basis to conclude that performing on-line maintenance on the Containment Spray system will increase the likelihood of human errors.

The intent of the General Design Criteria in 10 CFR Part 50, Appendix A is maintained.

The intent of the General Design Criteria (GDC) in 10CFR50, Appendix A is maintained because no change is proposed to the plant design and the Safety Analysis Report is not affected. The proposed completion time allowance provides sufficient time to methodically perform on-line maintenance (preventive and corrective). This enhances the quality of maintenance work and ultimately the reliability of the Containment Spray System.

Safety Margins

The proposed change provides expanded time limits for operation with a single train of Containment Spray inoperable. The proposed 7 day limit does not change or conflict with approved codes and standards for the containment spray system, and does not affect the Safety Analysis. As discussed below, the AOT change represents a risk neutral to risk beneficial change, and meets the risk change guidance discussed in RGs 1.177 and 1.174. Therefore, sufficient plant margins are maintained as a result of the proposed change.

Evaluation of Risk Impact

The risk assessment performed for the CEOG Joint Applications Report, CE NPSD-1045, was updated using the latest San Onofre Units 2 and 3 Probabilistic Risk Assessment model. The results are shown in Table 1, updating the Core Damage Frequency (CDF) results shown in CE Tables 6.3.2-1, 6.3.2-2, and 6.3.2-3. Also included in this Table are Large Early Release Frequency (LERF) results not originally included in the CE table.

Table 1 Updated SONGS Conditional CDF & LERF Contributions for CSS		
CORRECTIVE MAINTENANCE(CM)	CDF	LERF
Present Allowed Outage Time (AOT) (days)	3	3
Proposed AOT (days)	7	7
Baseline CDF/LERF, per year	1.94E-05	5.35E-07
Conditional CDF/LERF for CM, per year (1 CHR train T/M = 1.0, CCF=beta)	2.19E-05	6.00E-07
Change Factor	1.13	1.12
Conditional CDF/LERF for CM, per year (1 CHR train T/M=0)	1.94E-05	5.35E-07
Increase in CDF/LERF for CM, per year	2.50E-06	6.50E-08
Single AOT Risk (based on Current AOT) for CM	2.05E-08	5.34E-10
Single AOT Risk (based on Proposed AOT) for CM	4.79E-08	1.25E-09
Downtime Frequency for CM, events/year	0.4	0.4
Yearly AOT Risk (based on Current AOT) for CM, per year	8.22E-09	2.14E-10
Yearly AOT Risk (based on Proposed AOT) for CM, per year	1.92E-08	4.99E-10
Mean Duration for CM, hours/event	40	40
Single AOT Risk (based on Mean Duration) for CM	1.14E-08	2.97E-10
Yearly AOT Risk (based on Mean Duration) for CM, per year	4.57E-09	1.19E-10
PREVENTIVE MAINTENANCE (PM)		
Present AOT (days)	3	3
Proposed AOT (days)	7	7
Baseline CDF/LERF, per year	1.94E-05	5.35E-07

Table 1 **Updated SONGS Conditional CDF & LERF Contributions for CSS**		
Conditional CDF/LERF for PM, per year (1 CHR train unavailable)	2.14E-05	5.74E-07
Change Factor	1.10	1.07
Increase in CDF/LERF for PM, per year	2.00E-06	3.90E-08
Single AOT Risk (based on Current AOT) for PM	1.64E-08	3.21E-10
Single AOT Risk (based on Proposed AOT) for PM	3.84E-08	7.48E-10
Downtime Frequency for PM, events/year	2.00	2.00
Yearly AOT Risk (based on Current Full AOT) for PM, per year	3.29E-08	6.41E-10
Yearly AOT Risk (based on Proposed AOT) for PM, per year	7.67E-08	1.50E-09
Proposed Downtime for PM, hrs/yr/CHR train	224	224
Mean Duration for PM, hours/event	112	112
Single AOT Risk (based on Mean Duration) for PM	2.56E-08	4.99E-10
Yearly AOT Risk (based on Mean Duration) for PM, per year	5.11E-08	9.97E-10
AVERAGE CDF/LERF FOR CSS CHANGE		
Baseline CDF/LERF, per year	1.94E-05	5.35E-7
Proposed Downtime, hrs/yr/CHR train (CM +PM)	240	240
Proposed Average CDF/LERF, per year	1.94E-05	5.35E-7
Change Factor	**1.00**	**1.00**

The results presented above represent a small change from the San Onofre Units 2 and 3 results presented in CEOG report CE NPSD-1045. However, the results continue to support the conclusions reached in CEOG report CE NPSD-1045 and continue to meet the guidelines in RG 1.777 and RG 1.174 for risk-informed technical specification changes. The change in risk is due to a PRA model update implemented in 1998 in which the Containment Spray System was attributed additional credit as a backup for High Pressure Safety Injection (HPSI) and High Pressure recirculation following a small Loss of Coolant Accident (LOCA) per the Emergency Operating Instructions. In the Individual Plant Examination (IPE), credit for Containment Spray System (CSS) backup of HPSI was taken for only major Core Damage Frequency (CDF) sequences. The PRA change credited the CSS backup on all small LOCA sequences, and resulted in a more consistent sequence analysis in the SONGS PRA.

The CEOG Report, Section 6.3.5 provides an assessment of Large Early Release Frequency (LERF) impacts for the AOT extension. Based on this analysis and the results in Table 1 above, the contribution of the CS train maintenance on LERF is negligible.

As discussed in the CEOG report, the proposed TS change will allow Southern California Edison (SCE) the flexibility to perform on-line Preventive Maintenance (PM) and Corrective Maintenance (CM) on a single CS train. The CEOG report analyzed the importance of the CS pump at power and at shutdown, and determined the CS pump has a greater importance at shutdown (Shutdown Cooling Backup) than at power. For this reason, an avoided shutdown for CM events would result in a risk benefit for the plant.

Based on the risk values shown in Table 1, and the shutdown risk calculations provided in the CEOG report, the proposed change is considered risk neutral.

Quality of PRA

A comprehensive independent peer review of the SONGS 2/3 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. The review was based on the guidance provided in the PRA procedure guides such as NUREG/CR-2300 and NUREG/CR-4550 as well as PRA applications documents such as EPRI TR-105396 and NUREG-1489. The scope of the peer review is outlined in detail below.

System Fault Trees

The following system fault trees with their assumptions and associated Basic Event (BE) calculation files were reviewed and comments were entered in the SONGS PRA Review Punch List:

- Auxiliary Feedwater (AFW)
- Low Pressure Safety Injection (LPSI)
- Containment Spray/Containment Emergency Cooling (CS/CEC)
- High Pressure Safety Injection (HPSI)
- Heating, Ventilation and Air Conditioning (HVAC)
- Component Cooling Water (CCW)
- Chemical and Volume Control System (CVCS)
- Main Feedwater (MFW) and Condensate
- Main Steam System (MSS)
- Electric Power (EP)
- Instrument Air (IA)
- Plant Protection System (PPS)
- Safety Injection Tank System (SIT)
- Reactor Coolant System (RCS) Pressure Control
- Containment Isolation System (CIS)
- Saltwater Cooling System (SWC)

The above list represents all the system fault trees in the SONGS 2/3 Living PRA.

Event Trees

The following event trees with their assumptions and associated Basic Event (BE) calculation files were reviewed and comments were entered in the SONGS PRA Review Punch List:

- Loss of Power Conversion System (PCS)
- Transients with PCS Initially Available (TT)
- Loss of Offsite Power (LOP)
- Station Blackout (SBO)
- Main Steam Line Break (SLB)
- Large LOCA (LL)
- Medium LOCA (ML)
- Small LOCA (SL)
- Small Small LOCA (SSL)
- Steam Generator Tube Rupture (SGR)
- Loss of 125V DC Bus (LDC)
- Loss of Component Cooling Water (CCW)

- Interfacing System LOCA (VL)
- Reactor Pressure Vessel Rupture (VR)
- Anticipated Transient Without Scram (TWS)
- Internal Flooding Analysis

The above list represents all the event trees in the Level-1 SONGS 2/3 Living PRA.

Basic Event (BE) Calculation Files

As part of the SONGS 2/3 Individual Plant Examination (IPE) study, a large number of basic event (BE) calculation files had been developed to support a variety of tasks such as human reliability analysis (HRA) and common cause failure (CCF) analysis. All the BE calculation files related to the following topics were reviewed and comments were entered in the SONGS PRA Review Punch List.

- Fault tree analysis
- Event tree analysis
- CCF analysis
- Pre-initiating event operator actions (Type A) HRA
- Post-initiating event operator actions (Type C) HRA
- Plant-specific equipment data analysis (i.e., Bayesian update of equipment failure rates)
- Plant-specific maintenance unavailability calculations
- Over 200 BE calculation files were reviewed.

Level-2 Extended Event Trees (EETs)

The following Level-2 extended event trees with their assumptions were reviewed and comments were entered in the SONGS PRA Review Punch List:

- Loss of Power Conversion System (P1E and P2E)
- Transients with PCS Initially Available (T1E and T2E)
- Loss of Offsite Power (LPE)
- Station Blackout (SBE)
- Main Steam Line Break (MSE)
- Large LOCA (LLE)
- Medium LOCA (MLE)
- Small LOCA (SLE)
- Small Small LOCA (SSE)
- Steam Generator Tube Rupture (G1E, G2E, and G3E)
- Loss of 125V DC Bus (LDE)
- Loss of Component Cooling Water (CWE)

- Interfacing System LOCA (VLE)
- Reactor Pressure Vessel Rupture (VRE)
- Anticipated Transient Without Scram (AWE)

The above list represents all the extended event trees in the Level-2 SONGS 2/3 Living PRA.

Changes to SONGS 2/3 PRA Model

In addition to the comprehensive independent review described above, San Onofre has established a proceduralized process to provide an assurance of quality for required modifications to the SONGS 2/3 Living PRA through the use of independent reviews and approvals. The following steps are utilized in this PRA change process:

Step 1: PRA Review Punchlist Database. Upon identifying a required change or concern, the PRA engineer describes and records the change or concern that needs to be addressed in this database for tracking purposes. Based upon the importance of the issue, the item is assigned a priority and a PRA Engineer to address the issue.

Step 2: PRA Change Package (PRACP) Process. The PRA engineer's resolution is generated utilizing an internal PRACP procedure. Per procedure, the proposed change is reviewed and approved by an independent reviewer (at a minimum). The change is then implemented in the actual model (whether it be a basic event value change or a model change). After the implemented change is reviewed for accuracy, the change is reflected in the PRA Relational Database (see below). Finally, the PRACP process is completed once the package is approved by the manager or his designee.

Step 3: PRA Relational Database. The purpose of this database is to document electronically all the assumptions and basic event information used in the PRA model. Once a change has been identified, resolved, and approved, the change is reflected in either the assumptions, basic events, and/or references (Basic Event calculations, HRA calculations, systems analysis, etc.) sections of the database.

Commitment to Monitor the Impact of the Proposed AOT Change

The proposed risk-informed TS change will be implemented consistent with the SONGS Technical Specifications requirements and using the Configuration Risk Management Program (CRMP) as documented in plant procedure SO23-XV-50.

References: 1) USNRC, Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decision on Plant-Specific Changes to the Licensing Basis," July 1998.

2) USNRC, Regulatory Guide 1.177, "An Approach for Plant-Specific, Risk-Informed Decision Making: Technical Specification," August 1998.

NO SIGNIFICANT HAZARDS CONSIDERATION:

The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) Involve a significant reduction in a margin of safety. A discussion of these standards as they relate to this amendment request follows:

(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.

This proposed change is a request to revise Technical Specification 3.6.6.1, "Containment Spray and Cooling Systems" and the associated Bases. The proposed change revises the Allowed Outage Time (AOT) for a single inoperable train of the Containment Spray System (CSS) from 72 hours to 7 days. The following changes are proposed for the Containment Spray System as described in Technical Specification (TS) 3.6.6.1:

1) The Allowed Outage Time (AOT) for a single train of Containment Spray (Condition A of LCO 3.6.6.1) is extended from 72 hours to 7 days.

2) The Combined AOT of 10 days which appears in both Conditions A and C of LCO 3.6.6.1 is extended from 10 days to 14 days.

3) The Bases of TS 3.6.6.1 are revised to reflect the changes described above.

The Containment Spray System is an Engineered Safety Feature (ESF) system. Inoperable Containment Spray 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 proposed AOT for the Containment Spray System does impact the ability to mitigate accident sequences. Therefore, to fully evaluate the effects of the proposed CSS 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 an 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 proposed change will not create the possibility of a new or different kind of accident from any accident that has been 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, there will be no significant reduction in a margin of safety as a result of this change.

Based on the responses to these three criteria, Southern California Edison (SCE) has concluded that the proposed amendment involves no significant hazards consideration.

ENVIRONMENTAL CONSIDERATION:

SCE has determined that the proposed amendment involves no changes in the amount or type of effluent that may be released offsite, and results in no increase in individual or cumulative occupational radiation exposure. As described above, the proposed TS amendment involves no significant hazards consideration and, as such, meets the eligibility criteria for categorical exclusion set forth in 10CFR51.22(c)(9).

Attachment A

(Existing Pages)

SONGS Unit 2

3.6 CONTAINMENT SYSTEMS

3.6.6.1 Containment Spray and Cooling Systems

LCO 3.6.6.1 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO

(continued)

Attachment B

(Existing Pages)

SONGS Unit 3

3.6 CONTAINMENT SYSTEMS

3.6.6.1 Containment Spray and Cooling Systems

LCO 3.6.6.1 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO

(continued)

Attachment C

(Proposed Pages)

(Redline and Strikeout)

SONGS Unit 2

3.6 CONTAINMENT SYSTEMS

3.6.6.1 Containment Spray and Cooling Systems

LCO 3.6.6.1 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	~~72 hours~~7 days AND ~~10~~14 days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days AND ~~10~~14 days from discovery of failure to meet the LCO

(continued)

Attachment D

(Proposed Pages)

(Redline and Strikeout)

SONGS Unit 3

3.6 CONTAINMENT SYSTEMS

3.6.6.1 Containment Spray and Cooling Systems

LCO 3.6.6.1 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	~~72 hours~~7 days AND ~~10~~14 days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days AND ~~10~~14 days from discovery of failure to meet the LCO

(continued)

Attachment E

(Proposed Pages)

SONGS Unit 2

3.6 CONTAINMENT SYSTEMS

3.6.6.1 Containment Spray and Cooling Systems

LCO 3.6.6.1 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	7 days AND 14 days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days AND 14 days from discovery of failure to meet the LCO

(continued)

Attachment F

(Proposed Pages)

SONGS Unit 3

3.6 CONTAINMENT SYSTEMS

3.6.6.1 Containment Spray and Cooling Systems

LCO 3.6.6.1 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	7 days AND 14 days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days AND 14 days from discovery of failure to meet the LCO

(continued)

Attachment G

(Proposed Bases Pages)

(Redline and Strikeout)

SONGS Unit 2

BASES (continued)

LCO

During a DBA, a minimum of two containment cooling trains or two containment spray trains, or one of each, is required to maintain the containment peak pressure and temperature below the design limits (Ref. 3). Additionally, one containment spray train is also required to remove iodine from the containment atmosphere and maintain concentrations below those assumed in the safety analysis. To ensure that these requirements are met, two containment spray trains and two containment cooling units must be OPERABLE. Therefore, in the event of an accident, the minimum requirements are met, assuming that the worst case single active failure occurs.

Each Containment Spray System includes a spray pump, spray headers, nozzles, valves, piping, instruments, and controls to ensure an OPERABLE flow path capable of taking suction from the RWST upon an ESF actuation signal and automatically transferring suction to the containment sump.

Each Containment Cooling System includes demisters, cooling coils, dampers, fans, instruments, and controls to ensure an OPERABLE flow path.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to containment and an increase in containment pressure and temperature, requiring the operation of the containment spray trains and containment cooling trains.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Thus, the Containment Spray and Containment Cooling systems are not required to be OPERABLE in MODES 5 and 6.

ACTIONS

A.1

With one containment spray train inoperable, the inoperable containment spray train must be restored to OPERABLE status within ~~72 hours~~7 days. In this Condition, the remaining OPERABLE spray and cooling trains are adequate to perform the iodine removal and containment cooling functions. ~~The 72 hour Completion Time takes into account the redundant heat~~

(continued)

BASES

ACTIONS (continued)

A.1 (continued)

~~removal capability afforded by the Containment Spray System, reasonable time for repairs, and the low probability of a DBA occurring during this period.~~A Configuration Risk Management Program (CRMP) defined in the Administrative Controls Section 5.5.2.14 is implemented in the event of Condition A. The 7-day Completion Time is based on the findings of the deterministic and probabilistic analysis that was reviewed and approved in Reference 5. Seven days is a reasonable amount of time to perform many corrective and preventive maintenance items on the affected Containment Spray Train.

The ~~10~~14 day portion of the Completion Time is based upon engineering judgement. It takes into account the low probability of coincident entry into two conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

B.1 and B.2

If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 84 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 4 allows additional time for the restoration of the containment spray train and is reasonable when considering that the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

C.1

With one required containment cooling train inoperable, the inoperable containment cooling train must be restored to OPERABLE status within 7 days. The components in this

(continued)

BASES

ACTIONS (continued)

C.1 (continued)

degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 7 day Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of a DBA occurring during this period.

The ~~10~~14 day portion of the Completion Time is based upon engineering judgement. It takes into account the low probability of coincident entry into two conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

D.1

With two required containment cooling trains inoperable, one of the required containment cooling trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System, the iodine removal function of the Containment Spray System, and the low probability of a DBA occurring during this period.

E.1

With two containment spray trains or any combination of three or more Containment Spray System and Containment Cooling System trains inoperable, the unit is in a condition outside the accident analysis. Therefore, LCO 3.0.3 must be entered immediately.

(continued)

BASES

ACTIONS (continued)

F.1 and F.2

If the Required Actions and associated Completion Times of Condition C or D of this LCO are not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.6.1.1

Verifying the correct alignment for manual, power operated, and automatic valves in the containment spray flow path provides assurance that the proper flow paths will exist for Containment Spray System operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these were verified to be in the correct position prior to being secured. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This SR does not require any testing or valve manipulation. Rather, it involves verifying, through a system walkdown, that those valves outside containment and capable of potentially being mispositioned are in the correct position.

SR 3.6.6.1.2

Operating each containment cooling train fan unit for $\geq$ 15 minutes ensures that all trains are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected and corrective action taken. The 31 day Frequency of this SR was developed considering the known reliability of the fan units and controls, the two train redundancy available, and the low probability of a significant degradation of the containment cooling train occurring between surveillances and has been shown to be acceptable through operating experience.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6.1.3

Verifying a CCW System flow rate of ≥ 2000 gpm to each cooling unit provides assurance that the design flow rate assumed in the safety analyses will be achieved (Ref. 2). Also considered in selecting this Frequency were the known reliability of the CCW System, the two train redundancy, and the low probability of a significant degradation of flow occurring between surveillances.

SR 3.6.6.1.4

Verifying that the containment spray header piping is full of water to within 10 feet of the lowest spray ring minimizes the time required to fill the header. This ensures that spray flow will be admitted to the containment atmosphere within the time frame assumed in the containment analysis. The 24 month Frequency is based on the static nature of the fill header and the low probability of a significant degradation of water level in the piping occurring between surveillances.

SR 3.6.6.1.5 and SR 3.6.6.1.6

These SRs verify that each automatic containment spray valve actuates to its correct position and that each containment spray pump starts upon receipt of an actual or simulated actuation signal. The 24 month Frequency is based on the need to perform these Surveillances under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillances were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillances when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

The surveillance of containment sump isolation valves is also required by SR 3.5.2.5. A single surveillance may be used to satisfy both requirements.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6.1.7

This SR verifies that each containment cooling train actuates upon receipt of an actual or simulated actuation signal. The 24 month Frequency is based on engineering judgment and has been shown to be acceptable through operating experience. See SR 3.6.6.1.6 and SR 3.6.6.1.7, above, for further discussion of the basis for the 24 month Frequency.

SR 3.6.6.1.8

With the containment spray inlet valves closed and the spray header drained of any solution, low pressure air or smoke can be blown through test connections. Performance of this SR demonstrates that each spray nozzle is unobstructed and provides assurance that spray coverage of the containment during an accident is not degraded. Due to the passive design of the nozzle, a test at 10 year intervals is considered adequate to detect obstruction of the spray nozzles.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 38, GDC 39, GDC 40, GDC 41, GDC 42, and GDC 43.

2. SONGS Units 2 and 3 UFSAR, Section 6.2.

3. SONGS Units 2 and 3 UFSAR, Section 15.

4. ASME, Boiler and Pressure Vessel Code, Section XI.

5. CE-NPSD-1045, "Joint Applications Report, Modifications to the Containment Spray System, and the Low Pressure Safety Injection System Technical Specifications," March 1998.

Attachment H

(Proposed Bases Pages)

(Redline and Strikeout)

SONGS Unit 3

BASES (continued)

LCO

During a DBA, a minimum of two containment cooling trains or two containment spray trains, or one of each, is required to maintain the containment peak pressure and temperature below the design limits (Ref. 3). Additionally, one containment spray train is also required to remove iodine from the containment atmosphere and maintain concentrations below those assumed in the safety analysis. To ensure that these requirements are met, two containment spray trains and two containment cooling units must be OPERABLE. Therefore, in the event of an accident, the minimum requirements are met, assuming that the worst case single active failure occurs.

Each Containment Spray System includes a spray pump, spray headers, nozzles, valves, piping, instruments, and controls to ensure an OPERABLE flow path capable of taking suction from the RWST upon an ESF actuation signal and automatically transferring suction to the containment sump.

Each Containment Cooling System includes demisters, cooling coils, dampers, fans, instruments, and controls to ensure an OPERABLE flow path.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to containment and an increase in containment pressure and temperature, requiring the operation of the containment spray trains and containment cooling trains.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Thus, the Containment Spray and Containment Cooling systems are not required to be OPERABLE in MODES 5 and 6.

ACTIONS

A.1

With one containment spray train inoperable, the inoperable containment spray train must be restored to OPERABLE status within ~~72 hours~~7 days. In this Condition, the remaining OPERABLE spray and cooling trains are adequate to perform the iodine removal and containment cooling functions. ~~The 72 hour Completion Time takes into account the redundant heat removal capability afforded by the Containment Spray~~

(continued)

BASES

ACTIONS (continued)

A.1 (continued)

~~System, reasonable time for repairs, and the low probability of a DBA occurring during this period.~~A Configuration Risk Management Program (CRMP) defined in the Administrative Controls Section 5.5.2.14 is implemented in the event of Condition A. The 7-day Completion Time is based on the findings of the deterministic and probabilistic analysis that was reviewed and approved in Reference 5. Seven days is a reasonable amount of time to perform many corrective and preventive maintenance items on the affected Containment Spray Train.

The ~~10~~14 day portion of the Completion Time is based upon engineering judgement. It takes into account the low probability of coincident entry into two conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

B.1 and B.2

If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 84 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 4 allows additional time for the restoration of the containment spray train and is reasonable when considering that the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

C.1

With one required containment cooling train inoperable, the inoperable containment cooling train must be restored to OPERABLE status within 7 days. The components in this

(continued)

BASES

ACTIONS (continued)

C.1 (continued)

degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 7 day Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of a DBA occurring during this period.

The ~~10~~14 day portion of the Completion Time is based upon engineering judgement. It takes into account the low probability of coincident entry into two conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

D.1

With two required containment cooling trains inoperable, one of the required containment cooling trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System, the iodine removal function of the Containment Spray System, and the low probability of a DBA occurring during this period.

E.1

With two containment spray trains or any combination of three or more Containment Spray System and Containment Cooling System trains inoperable, the unit is in a condition outside the accident analysis. Therefore, LCO 3.0.3 must be entered immediately.

(continued)

BASES

ACTIONS (continued)

F.1 and F.2

If the Required Actions and associated Completion Times of Condition C or D of this LCO are not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.6.1.1

Verifying the correct alignment for manual, power operated, and automatic valves in the containment spray flow path provides assurance that the proper flow paths will exist for Containment Spray System operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these were verified to be in the correct position prior to being secured. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This SR does not require any testing or valve manipulation. Rather, it involves verifying, through a system walkdown, that those valves outside containment and capable of potentially being mispositioned are in the correct position.

SR 3.6.6.1.2

Operating each containment cooling train fan unit for $\geq$ 15 minutes ensures that all trains are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected and corrective action taken. The 31 day Frequency of this SR was developed considering the known reliability of the fan units and controls, the two train redundancy available, and the low probability of a significant degradation of the containment cooling train occurring between surveillances and has been shown to be acceptable through operating experience.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6.1.3

Verifying a CCW System flow rate of ≥ 2000 gpm to each cooling unit provides assurance that the design flow rate assumed in the safety analyses will be achieved (Ref. 2). Also considered in selecting this Frequency were the known reliability of the CCW System, the two train redundancy, and the low probability of a significant degradation of flow occurring between surveillances.

SR 3.6.6.1.4

Verifying that the containment spray header piping is full of water to within 10 feet of the lowest spray ring minimizes the time required to fill the header. This ensures that spray flow will be admitted to the containment atmosphere within the time frame assumed in the containment analysis. The 24 month Frequency is based on the static nature of the fill header and the low probability of a significant degradation of water level in the piping occurring between surveillances.

SR 3.6.6.1.5 and SR 3.6.6.1.6

These SRs verify that each automatic containment spray valve actuates to its correct position and that each containment spray pump starts upon receipt of an actual or simulated actuation signal. The 24 month Frequency is based on the need to perform these Surveillances under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillances were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillances when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

The surveillance of containment sump isolation valves is also required by SR 3.5.2.5. A single surveillance may be used to satisfy both requirements.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6.1.7

This SR verifies that each containment cooling train actuates upon receipt of an actual or simulated actuation signal. The 24 month Frequency is based on engineering judgment and has been shown to be acceptable through operating experience. See SR 3.6.6.1.6 and SR 3.6.6.1.7, above, for further discussion of the basis for the 24 month Frequency.

SR 3.6.6.1.8

With the containment spray inlet valves closed and the spray header drained of any solution, low pressure air or smoke can be blown through test connections. Performance of this SR demonstrates that each spray nozzle is unobstructed and provides assurance that spray coverage of the containment during an accident is not degraded. Due to the passive design of the nozzle, a test at 10 year intervals is considered adequate to detect obstruction of the spray nozzles.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 38, GDC 39, GDC 40, GDC 41, GDC 42, and GDC 43.
2. SONGS Units 2 and 3 UFSAR, Section 6.2.
3. SONGS Units 2 and 3 UFSAR, Section 15.
4. ASME, Boiler and Pressure Vessel Code, Section XI.
5. CE-NPSD-1045, "Joint Applications Report, Modifications to the Containment Spray System, and the Low Pressure Safety Injection System Technical Specifications," March 1998.