

March 9, 2000

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Mr. Harold B. Ray
Executive Vice President
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
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SUBJECT: SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3 -
ISSUANCE OF AMENDMENTS RE: CONTAINMENT ISOLATION VALVES (TAC
NOS. MA1549 AND MA1550)

Dear Mr. Ray:

The Commission has issued the enclosed Amendment No. 165 to Facility Operating License No. NPF-10 and Amendment No. 156 to Facility Operating License No. NPF-15 for San Onofre Nuclear Generating Station, Units 2 and 3, respectively. The amendments are in response to your application dated April 11, 1996 (PCN 460), as supplemented April 6, 1998, and March 22 and July 29, 1999, to revise Technical Specification (TS) 3.6.3, "Containment Isolation Valves."

The amendments specify that the completion time for required action for certain containment isolation valves be in accordance with the applicable limiting condition for operation pertaining to the engineered safety features system in which they are installed.

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/

L. Raghavan, Senior Project Manager, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

- Enclosures: 1. Amendment No. 165 to NPF-10
- 2. Amendment No. 156 to NPF-15
- 3. Safety Evaluation

cc w/encls: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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. 165
License No. NPF-10

- I. 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 April 11, 1996, as supplemented April 6, 1998, and March 22 and July 29, 1999, 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. 165, 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 its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment: Changes to the Technical
Specifications

Date of Issuance: March 9, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 165

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

3.6-12

INSERT

3.6-12

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. One or more Section D.1 containment isolation valve(s) inoperable.</p>	<p>E.1 Secure the inoperable valve(s) in its ESFAS actuated position.</p> <p><u>AND</u></p> <p>E.2 Restore the inoperable valve(s) to OPERABLE status.</p>	<p>In accordance with the applicable LCO pertaining to the ESF system in which it is installed.</p> <p>Prior to entering MODE 4 from MODE 5 if MODE 5 entered within 30 days, otherwise within 30 days</p>
<p>F. One or more Section D.2 containment isolation valve(s) inoperable.</p>	<p>F.1 Secure the inoperable valve(s) in its ESFAS actuated position.</p> <p><u>AND</u></p> <p>F.2 Restore the inoperable valve(s) to OPERABLE status.</p>	<p>In accordance with the applicable LCO pertaining to the ESF system in which it is installed.</p> <p>Prior to entering MODE 4 from MODE 5.</p>
<p>G. Required Action and associated Completion Time not met.</p>	<p>G.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>G.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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. 156
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 April 11, 1996, as supplemented April 6, 1998, and March 22 and July 29, 1999, 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. 156 , 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 its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment: Changes to the Technical
Specifications

Date of Issuance: March 9, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 156

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

3.6-12

INSERT

3.6-12

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. One or more Section D.1 containment isolation valve(s) inoperable.</p>	<p>E.1 Secure the inoperable valve(s) in its ESFAS actuated position.</p> <p><u>AND</u></p> <p>E.2 Restore the inoperable valve(s) to OPERABLE status.</p>	<p>In accordance with the applicable LCO pertaining to the ESF system in which it is installed.</p> <p>Prior to entering MODE 4 from MODE 5 if MODE 5 entered within 30 days, otherwise within 30 days</p>
<p>F. One or more Section D.2 containment isolation valve(s) inoperable.</p>	<p>F.1 Secure the inoperable valve(s) in its ESFAS actuated position.</p> <p><u>AND</u></p> <p>F.2 Restore the inoperable valve(s) to OPERABLE status.</p>	<p>In accordance with the applicable LCO pertaining to the ESF system in which it is installed.</p> <p>Prior to entering MODE 4 from MODE 5.</p>
<p>G. Required Action and associated Completion Time not met.</p>	<p>G.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>G.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 165 TO FACILITY OPERATING LICENSE NO. NPF-10
AND AMENDMENT NO. 156 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 letter dated April 11, 1996 (PCN 460), as supplemented April 6, 1998, and March 22 and July 29, 1999, Southern California Edison Company (SCE or the licensee) requested amendments to San Onofre Nuclear Station (SONGS) Units 2 and 3 Technical Specification (TS) 3.6.3, "Containment Isolation Valves." TS 3.6.3 currently requires that the containment isolation valves be secured in their engineered safety feature actuation signal (ESFAS) actuated position within 4 hours of becoming inoperable. The licensee proposes to revise TS 3.6.3 to specify that the completion time for required action for these valves be in accordance with the applicable limiting condition for operation (LCO) pertaining to the engineered safety features system in which it is installed. The licensee stated that the current TS requirement precludes the performance of on-line maintenance which results in increased work scope and potentially extended refueling outages. The licensee noted that the proposed amendment request would allow on-line diagnostic testing of motor-operated valves (MOVs). The licensee stated that the maintenance and surveillance programs for these valves require MOV diagnostic testing following any work performed on the valve or its actuator. The licensee estimated that MOV preventive or corrective maintenance and follow-up diagnostic testing requires approximately 42 to 52 hours to complete.

2.0 EVALUATION

The U.S. Nuclear Regulatory Commission (NRC) staff evaluated the licensee's proposed amendments in three parts: systems design, deterministic evaluation, and probabilistic risk assessment. They are discussed below.

2.1 Systems Design Review

2.1.1 Containment Systems Design Review

Standard TSs, and plant TSs of nearly all plants, require a containment penetration to be isolated within a certain period (typically 4 hours) if one of its containment isolation valves (CIVs) becomes inoperable. The SONGS TS is unusual in that certain CIVs are required to be open, rather than closed, when they become inoperable. This includes the CIVs that are the subject of the current review, namely, the TS Section D.1 and D.2 valves.

The licensee has requested an increase in the amount of time allowed to complete the action required by TS 3.6.3 for an inoperable valve (i.e., to secure the valve in the open position). The allowed time is currently 4 hours.

To achieve containment isolation, the most desirable condition for a CIV is to be locked closed, and the least desirable condition is to be locked (or secured, or stuck) open. An open valve does not isolate the containment; a secured-open valve is difficult to close, and, in standard containment design, would not qualify as a containment isolation valve. A change to the TS that would increase the amount of time before a CIV is placed in the least desirable condition (secured open) would therefore be an improvement in safety. Thus, from the viewpoint of containment isolation, the proposed TS change is acceptable.

2.1.3 Reactor Systems Review

The D.1 and D.2 valves in TS 3.6.3 provide both containment isolation and ESFAS functions. These valves are opened for their ESFAS function and closed for their containment isolation function. In a submittal dated July 27, 1999, the licensee reported that the proposed TS change does not affect system design redundancy, independence, or diversity. All the subject D.1 and D.2 CIVs (with the exception of charging valve HV-9200) belong in systems with a high degree of redundancy and diversity. For example, the high-pressure safety injection (HPSI) and low-pressure safety injection (LPSI) valves constitute eight and four redundant injection flow paths, respectively. Furthermore, different systems are designed to fulfill a safety function. For example, the containment spray (CS) system in the reactor coolant system (RCS) cold leg injection mode and the HPSI system provide high pressure RCS makeup during a loss-of-coolant-accident (LOCA). For charging valve HV-9200 closure, an alternate charging path will be established by the operators using abnormal operating instruction SO23-13-14.

Based upon the ESFAS redundancy and diversity, we find the proposed TS changes are acceptable.

2.2 Deterministic Evaluation

NRC Regulatory Guide (RG) 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," describes methods acceptable to the NRC staff for assessing the nature and impact of proposed TS changes by considering engineering issues and applying risk insights. In implementing risk-informed decisionmaking, RG 1.177 indicates that TS changes are expected to meet a set of key principles. These principles are:

1. The proposed change meets the current regulations unless it is explicitly related to a requested exemption or rule change.
2. The proposed change is consistent with the defense-in-depth philosophy.
3. The proposed change maintains sufficient safety margins.
4. When proposed changes result in an increase in core damage frequency or risk, the increases should be small and consistent with the intent of the Commission's Safety Goal Policy Statement.
5. The impact of the proposed change should be monitored using performance measurement strategies.

In RG 1.177, the staff discusses the application of a four-element approach for risk-informed changes to plant TS requirements that include (1) defining the proposed change, (2) performing an engineering analysis, (3) defining the implementation and monitoring program, and (4) submitting the proposed change.

In its submittal, the licensee specified that the reason for the proposed TS change is to allow on-line maintenance of the subject CIVs in order to minimize the duration of its refueling outages. The licensee's proposed TS change does not follow previous NRC guidance on the use of on-line maintenance to shorten refueling outages discussed in NRC Inspection Manual Part 9900, Technical Guidance. However, in the more recent RG 1.177, the NRC staff specifies that generally acceptable reasons for TS change requests fall into one or more of the following categories: (1) improvement in operational safety, (2) consistency of risk basis in regulatory requirements, and (3) reduction of unnecessary burden. The NRC staff has determined that use of on-line maintenance to minimize the duration of refueling outages is allowed through the implementation of RG 1.177 in that the proposed TS change reduces unnecessary burden.

In RG 1.177, the staff stated that licensees should evaluate the proposed TS change to ensure that adequate defense in depth and sufficient safety margins are maintained, and increases in core damage frequency (CDF) and risk are small, and are consistent with the intent of the Commission's Safety Goal Policy Statement. The staff also noted that licensees are expected to provide strong technical bases for any TS change that is rooted in traditional engineering and systems analyses. The staff further states that TS change requests based on probabilistic risk assessment (PRA) results alone should not be submitted for review.

In its July 29, 1999, submittal the licensee described its evaluation of the proposed TS change following traditional engineering considerations. In particular, the licensee reported that the proposed TS change will not affect system design redundancy, independence, or diversity. All of the subject CIVs (with the exception of charging valve HV-9200) belong in systems with a high degree of redundancy and diversity. For example, the HPSI and LPSI valves constitute eight and four redundant injection flow paths, respectively. Further, multiple systems are designed to fulfill individual safety functions. For example, both the CS system in an injection mode and the HPSI system can provide high pressure makeup flow to the RCS. The licensee has specific procedures to address instances when charging valve HV-9200 is closed.

The licensee has verified that the proposed TS change will not affect the design of the plant, or the type or frequency of planned maintenance and testing on the subject CIVs. The licensee has reviewed the performance of on-line maintenance on these valves for any new common-cause failure mechanisms and none were identified. The licensee believes that performance of on-line maintenance will not increase the likelihood of human errors because of the absence of outage activities. The staff notes that common-cause failures may still be possible during on-line maintenance. Further, although the absence of outage activities may reduce human errors, operational constraints might increase the potential for such errors.

In proposing the TS change, the licensee has determined that the existing balance is preserved between prevention of core damage and containment failure, and mitigation of consequences. For example, the licensee points to the small increases in CDF associated with the proposed TS change. The licensee also states that the current and proposed TS requirements both allow the CIVs to be secured open when inoperable. The staff agrees that the SONGS TS allows the CIVs to be secured in their open position, but notes that the allowed time for the valves to be inoperable will be significantly extended by the proposed TS change.

The licensee has determined that the proposed TS change does not introduce any weaknesses in plant design. The licensee considers the intent of the General Design Criteria in 10 CFR Part 50, Appendix A, to be maintained because there is no change to the plant design and no effect on the Safety Analysis Report. The licensee asserts that the proposed TS change will enhance the quality of MOV maintenance, diagnostic testing and, ultimately, MOV reliability. The staff agrees that the performance of MOV activities during plant operation might allow a more methodical approach to such activities than possible during plant outages. However, the staff notes that the performance of MOV preventive and corrective maintenance and testing during plant operation requires the coordination of maintenance and testing to ensure that other plant equipment is not adversely affected by those activities.

The licensee states that the proposed TS change will be implemented consistent with its TS requirements and will be subject to the Configuration Risk Management Program (CRMP). In its submittal dated March 22, 1999, the licensee noted that the CRMP tool will address the safety significance of the unavailability of the subject CIVs. The licensee specified that the CRMP includes provisions for (1) the control and implementation of the methodology for at-power internal events; (2) assessment of preplanned activities, unplanned entry into an LCO, and need for additional actions after discovery of additional equipment out of service; and (3) consideration of other applicable risk significance contributors and external events. The licensee is relying principally on the risk considerations of the CRMP for the adequacy of the scheduling of on-line maintenance of the CIVs.

On the basis of above, the staff has determined that the licensee has evaluated the proposed TS change with regard to the principles that adequate defense in depth is maintained, that sufficient safety margins are maintained, and that proposed increases in CDF and risk are small and are consistent with the intent of the Commission's Safety Goal Policy Statement. Therefore, the staff concludes that the licensee has satisfied the recommendations in RG 1.177 for an engineering evaluation of the proposed TS change and the proposed TS change is acceptable.

2.3 Probabilistic Risk Assessment (PRA) Review

The staff used a three-tiered approach, as outlined in RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and RG1.177, to gain risk insights and to evaluate the risk associated with the proposed amendments. The first tier evaluated the PRA model and the impact of the change on plant operational risk. The second tier addressed the need to preclude potentially high risk configurations if additional equipment will be taken out of service simultaneously or other risk-significant operational factors, such as the potential for concurrent system or equipment testing. The third tier evaluated the licensee's CRMP to ensure that equipment removed from service prior to or during the proposed completion times (CT) will be appropriately assessed from a risk perspective. Each tier and associated findings are discussed below.

2.3.1 Tier 1: PRA Evaluation of CT Extensions

The licensee states that the proposed CT extension would result in a small increase in terms of CDF and large early release frequency (LERF).

The licensee proposed the CT extension in order to perform on-line maintenance and motor-operated valve actuator testing (MOVAT) on TS 3.6.3 Section D.1 and D.2 valves to reduce the refueling outage work scope. The TS 3.6.3 Section D.1 and D.2 valves consist of 27 valves, including 8 HPSI valves, 4 LPSI valves, 1 charging valve, 4 containment pressure detector valves, 2 CS valves, and 8 containment air cooler cooling water valves. The licensee stated that charging valve, HV-9200, will not be removed from service for MOVAT or other testing during MODES 1 through 4 since removal of the charging valve renders both RCS boron injection flow paths unavailable, thus causing entry into TS 3.0.3.

The staff determined that the licensee actively uses PRA on a daily basis during at-power operation when making safety decisions relating to various plant activities. The licensee's PRA staff has demonstrated a strong level of knowledge and high degree of confidence in its PRA model for this and other previous risk-informed applications.

The Tier 1 staff review of the licensee's PRA involved two aspects: (1) evaluation of the PRA model and its application to the proposed CT extension, and (2) evaluation of PRA results and insights stemming from the application. The review did not identify any unconventional PRA practices or unique features that could impact the reasonableness of PRA findings and conclusions.

(1) Evaluation of PRA Model and Application to the CT Extension

The staff's review focused on the capability of the licensee's PRA model to analyze the CT risk stemming from the modified CTs for the Section D.1 and D.2 valves. However, this did not involve an in-depth review of the licensee's PRA to the extent necessary to validate the licensee's overall quantitative estimates. The staff's review consisted of an initial screening process that examined the attributes of the licensee's PRA, i.e., scope and level of detail that consider event sequences that are important to the valves associated with the proposed TS change.

The licensee used its "living" PRA model as the basis for the calculations to support the proposed changes. The licensee's current PRA model has been updated since the development of the Individual Plant Examination (IPE). The licensee utilizes a proceduralized change process to control modification of the PRA to reflect the as-built, as-operated, plant condition.

The licensee's at-power PRA consists of a Level 1 and Level 2 analysis of accident sequences due to both internal and external events. The development of the PRA is based on the small event tree and large fault tree methodology using the fault tree linking technique, and the set of event trees are consistent with those in PRAs of other Combustion Engineering-(CE-)designed plants.

The licensee's PRA models all of the Section D.1 and D.2 valves except the four containment pressure detector valves. The licensee used generic values for the failure rates of the modeled valves and the β -factor model for common-cause failure probabilities for redundant valves. The licensee did not model the containment pressure detector valves in the PRA because of redundancy and the very small size of the valves. The staff believes that failure of the containment pressure detector valves has a negligible impact on CDF or LERF.

The licensee analyzed the event sequences for which the proposed on-line maintenance of the D.1 and D.2 valves results in a CDF or LERF above a cutoff value of $1.0E-9$ /yr. The dominant CDF cutsets involving on-line maintenance of the eight containment air cooler cooling water valves involve a small LOCA or a transient-induced small LOCA with failure of long-term containment cooling provided by the emergency cooling system. No LERF cutsets involving on-line maintenance of the eight containment air cooler cooling water valves were found with a frequency above $1.0E-9$ /yr. The dominant CDF cutsets involving on-line maintenance of the four LPSI valves involve a large LOCA event with failure of LPSI flow. No LERF cutsets involving on-line maintenance of the four LPSI valves were found with a frequency above $1.0E-9$ /yr. The SONGS IPE indicates that LOCAs and transients are important contributors to overall CDF. The staff finds that the values for LOCAs and transients are consistent with IPE submittals of other CE plants.

The staff believes that the licensee's at-power PRA has adequate scope and detail for assessing the risk impact of the proposed change.

(2) Evaluation of PRA Results and Insights Associated with the Proposed Change

The licensee estimated the impact of the proposed CIV CT extension on plant risk. The licensee estimated the Δ CDF, the Δ LERF, the incremental conditional core damage probability (ICCDP¹), and the incremental conditional large early release probability (ICLERP²) for each of the D.1 and D.2 valves. The licensee's risk estimates of core damage and large early release

¹ICCDP = [(conditional CDF with the subject equipment out of service)-(baseline CDF with nominal expected equipment unavailabilities)] X (duration of single CT under consideration)

²ICLERP = [(conditional LERF with the subject equipment out of service)-(baseline LERF with nominal expected equipment unavailabilities)] X (duration of single CT under consideration)

risk reflect point estimates. The licensee did not perform an uncertainty analysis since the risk estimates were found to be very small. The licensee expects that D.1 and D.2 valve overhaul maintenance, including MOVAT, to be performed about once every 6 years. The risk estimates summarized in the table below assume that the proposed extended CT would be entered once every 6 years.

Impact of the Proposed TS Change on Plant Risk				
Section D.1/D.2 valve	Δ CDF, yr ⁻¹	Δ LERF, yr ⁻¹	ICCDP	ICLERP
8 Containment Air Cooler Cooling Water Valves	5.0E-7	<1.0E-9	9.6E-9	<2E-11
2 CS Valves	<1.0E-9	<1.0E-9	<8E-12	<8E-12
4 Containment Pressure Detector Valves	negligible	negligible	negligible	negligible
1 Charging Valve	1.0E-7	1.0E-9	8E-10	8E-12
8 HPSI Valves	<1.0E-9	<1.0E-9	<8E-12	<8E-12
4 LPSI Valves	6.0E-7	<1.0E-9	4.9E-9	<8E-12
Total	6.5E-6	2.3E-8	9.7E-8	2.8E-10

Additionally, to examine the change in risk if the frequency of entering the proposed CT is greater than anticipated, the licensee performed a sensitivity analysis to estimate the risk impact of the proposed change assuming the CIV extended CT is entered once a year. Results of the sensitivity analysis are presented in the table below.

Sensitivity Analysis of the Impact of the Proposed TS Change on Plant Risk				
Section D.1/D.2 valve	Δ CDF, yr ⁻¹	Δ LERF, yr ⁻¹	ICCDP	ICLERP
8 Containment Air Cooler Cooling Water Valves	1.0E-6	<1.0E-9	1.9E-8	<2E-11
2 CS Valves	1.0E-7	<1.0E-9	8.2E-10	<8E-12
4 Containment Pressure Detector Valves	negligible	negligible	negligible	negligible
1 Charging Valve	1.0E-7	1.0E-9	8.2E-10	8.2E-12
8 HPSI Valves	1.0E-7	<1.0E-9	8.2E-10	<8E-12
4 LPSI Valves	1.3E-6	<1.0E-9	1.1E-8	<8E-12
Total	1.0E-5	2.3E-8	2.1E-7	2.8E-10

The licensee's analysis indicates that the proposed CIV CT extension would result in a small increase in risk. As shown in the sensitivity analysis above, even if the CT is entered more frequently than anticipated, the estimated ICCDP and ICLERP still fall within the acceptance guidelines recommended in RG 1.177. The staff review of the licensee's risk analysis focused on the reasonableness of the overall approach and PRA technique used to support the proposed change in CIV CT extension.

The staff finds that there are no significant weaknesses or deficiencies associated with the approach and PRA technique used to justify the requested CIV CT extension. The staff believes that the overall approach and PRA methodology used to support the proposed CIV CT extension are reasonable for this application. The staff concludes that the licensee's proposal has met the intent of the Tier 1 guidance in RG 1.177.

2.3.2 Tier 2: Avoidance of Risk Significant Plant Configurations

The staff finds that SONGS' risk-informed CRMP provides reasonable assurance that risk-significant plant equipment outage configurations will not occur when a TS 3.6.3 Section D.1 and D.2 valve is inoperable consistent with the proposed TS change. The CRMP has provisions for assessing the need for additional actions if additional equipment-out-of-service conditions exist while the plant is in the risk-informed completion time.

The staff, therefore, believes that the licensee's CRMP satisfies the intent of Tier 2 to avoid risk-significant plant configurations.

2.3.3 Tier 3: Risk-Informed Plant Configuration Management

The staff believes that the licensee's risk-informed CRMP will allow an evaluation of the risk associated with both scheduled and unscheduled plant activities with a TS 3.6.3 Section D.1 or D.2 valve in its CT in accordance with the proposed TS. The licensee actively uses PRA to control risk using its on-line safety monitor. The licensee has already incorporated the CRMP descriptions into TS 5.5.2.14, "Configuration Risk Management Program," and the staff finds it acceptable. The licensee stated that TS 5.5.2.14 is applicable to the proposed TS change since the proposed change is a risk-informed CT. The staff concludes that the licensee has met the intent of the Tier 3 guidance.

2.3.4 Implementation and Monitoring

The staff expects the licensee to implement these TS changes in accordance with the three-tiered approach described above. The licensee has also indicated that the TS 3.6.3 Section D.1 and D.2 valves are covered by the SONGS Maintenance Rule Program as part of the containment isolation system. The licensee will monitor performance of these in relation to the Maintenance Rule performance criteria. Therefore, application of these implementation and monitoring strategies will help to ensure that an extension of the TS 3.6.3 Section D.1 and D.2 valve CT does not degrade operational safety over time and that the risk expected when one of these valves is taken out of service is minimized.

2.3.5 Conclusion

The staff finds that the licensee's proposed CT extension of TS 3.6.3 Section D.1 and D.2 valves for performing on-line maintenance of these valves will have a small impact on risk. The staff also believes that the licensee's CRMP provides a proceduralized risk-informed method to manage the risk associated with this risk-informed TS change and has met the intent of the three-tiered review process outlined in RG 1.177.

The staff, therefore, concludes that the PRA analysis supports the proposed TS change for TS 3.6.3 Section D.1 and D.2 valve CT extension.

3.0 SUMMARY

The staff has determined that from the viewpoint of containment isolation, the proposed TS change would increase the amount of time before a CIV is placed in the least desirable condition (secured open) and therefore, considered an improvement in safety. Further, the staff concludes that the proposed TS change would not adversely impact ESFAS function.

The staff has determined that the licensee has evaluated the proposed TS change with regard to the principles that adequate defense in depth is maintained, that sufficient safety margins are maintained, and that proposed increases in CDF and risk are small and are consistent with the intent of the Commission's Safety Goal Policy Statement. Therefore, the staff concludes that the licensee has satisfied the recommendations in RG 1.177 for an engineering evaluation of the proposed TS change and the proposed TS change is acceptable.

The staff concludes that the proposed changes to SONGS Units 2 and 3 proposed CT extension of TS 3.6.3 Section D.1 and D.2 valves for performing on-line maintenance of these valves will have a small impact on risk. The staff also believes that the licensee's CRMP provides a proceduralized risk-informed method to manage the risk associated with this risk-informed TS change and has met the intent of the three-tiered review process outlined in RG 1.177.

4.0 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.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change surveillance requirements. 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 (65 FR 2993). 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.

6.0 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.

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