ATTACHMENT 1

VOLUME 9

SAN ONOFRE NUCLEAR GENERATING STATION

IMPROVED TECHNICAL SPECIFICATIONS CONVERSION

ITS SECTION 3.6 CONTAINMENT SYSTEMS

LIST OF ATTACHMENTS

1. **ITS 3.6.1 – Containment**
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4. **ITS 3.6.4 – Containment Pressure**
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6. **ITS 3.6.6 – Containment Spray and Cooling System**
7. **ITS 3.6.8 – Containment Dome Air Circulators**
8. **ISTS Not Adopted**

NOTE: There is no ITS 3.6.7

ATTACHMENT 1

ITS 3.6.1, CONTAINMENT

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS

A01

3.6 CONTAINMENT SYSTEMS

3.6.1 Containment

LCO 3.6.1

LCO 3.6.1 Containment shall be OPERABLE.

Applicability

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. Containment inoperable.	A.1 Restore containment to OPERABLE status.	1 hour
ACTION B B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

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ITS

A01

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY
SR 3.6.1.1	SR 3.6.1.1	Perform required visual examinations and leakage rate testing except for containment air lock testing, in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program
SR 3.6.1.2	SR 3.6.1.2	Verify containment structural integrity in accordance with the Containment Tendon Surveillance Program.	In accordance with the Containment Tendon Surveillance Program

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3.6 CONTAINMENT SYSTEMS

3.6.1 Containment

LCO 3.6.1

LCO 3.6.1 Containment shall be OPERABLE.

Applicability

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. Containment inoperable.	A.1 Restore containment to OPERABLE status.	1 hour
ACTION B B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

ITS

A01

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY
SR 3.6.1.1	SR 3.6.1.1	Perform required visual examinations and leakage rate testing except for containment air lock testing, in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program
SR 3.6.1.2	SR 3.6.1.2	Verify containment structural integrity in accordance with the Containment Tendon Surveillance Program.	In accordance with the Containment Tendon Surveillance Program

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DISCUSSION OF CHANGES
ITS 3.6.1, CONTAINMENT

ADMINISTRATIVE CHANGES

A01 In the conversion of the San Onofre Nuclear Generating Station (SONGS) Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1432, Rev. 3.0, "Standard Technical Specifications Combustion Engineering Plants" (ISTS) and additional approved Technical Specification Task Force (TSTF) travelers included in this submittal.

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

3.6 CONTAINMENT SYSTEMS

3.6.1 Containment (Atmospheric and Dual) 2

LCO 3.6.1

LCO 3.6.1 Containment shall be OPERABLE.

Applicability

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. Containment inoperable.	A.1 Restore containment to OPERABLE status.	1 hour
ACTION B B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.1 SR 3.6.1.1	Perform required visual examinations and leakage rate testing except for containment air lock testing, in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program
SR 3.6.1.2 SR 3.6.1.2	Verify containment structural integrity in accordance with the Containment Tendon Surveillance Program.	In accordance with the Containment Tendon Surveillance Program 3

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.1, CONTAINMENT

1. Changes are made (additions, deletions, and/or changes) to the ISTS which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.1 include the parenthetical expression "(Atmospheric and Dual)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an Atmospheric type of containment.

3. The ISTS contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Bases Justification for Deviations (JFDs)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1A Containment (Atmospheric)

BASES

BACKGROUND

The containment consists of the concrete reactor building (RB), its steel liner, and the penetrations through this structure. The structure is designed to contain radioactive material that may be released from the reactor core following a design basis loss of coolant accident (LOCA). Additionally, this structure provides shielding from the fission products that may be present in the containment atmosphere following accident conditions.

The containment is a reinforced concrete structure with a cylindrical wall, a flat foundation mat, and a shallow dome roof. For containments with ungrouted tendons, the cylinder wall is prestressed with a post tensioning system in the vertical and horizontal directions, and the dome roof is prestressed utilizing a three way post tensioning system. The inside surface of the containment is lined with a carbon steel liner to ensure a high degree of leak tightness during operating and accident conditions.

The concrete RB is required for structural integrity of the containment under Design Basis Accident (DBA) conditions. The steel liner and its penetrations establish the leakage limiting boundary of the containment. Maintaining the containment OPERABLE limits the leakage of fission product radioactivity from the containment to the environment. SR 3.6.1.1 leakage rate requirements comply with 10 CFR 50, Appendix J, Option [A][B] (Ref. 1), as modified by approved exemptions.

The isolation devices for the penetrations in the containment boundary are a part of the containment leak tight barrier. To maintain this leak tight barrier:

a. All penetrations required to be closed during accident conditions are either:

1. Capable of being closed by an OPERABLE automatic containment isolation system or ;

2. Closed by manual valves, blind flanges, or de-activated automatic valves secured in their closed positions, except as provided in LCO 3.6.3, "Containment Isolation Valves." ;

BASES

BACKGROUND (continued)

b. Each air lock is OPERABLE, except as provided in LCO 3.6.2, "Containment Air Locks;" and

c. All equipment hatches are closed; and

[d. The pressurized sealing mechanism associated with a penetration, except as provided in LCO 3.6.[ ], is OPERABLE.]

APPLICABLE SAFETY ANALYSES

The safety design basis for the containment is that the containment must withstand the pressures and temperatures of the limiting DBA without exceeding the design leakage rate.

The DBAs that result in a release of radioactive material within containment are a loss of coolant accident (LOCA), a main steam line break, and a control element assembly ejection accident (Ref. 2). In the analysis of each of these accidents, it is assumed that containment is OPERABLE such that release of fission products to the environment is controlled by the rate of containment leakage. The containment was designed with an allowable leakage rate of [0.10]% of containment air weight per day (Ref. 3). This leakage rate is defined in 10 CFR 50, Appendix J, Option [A][B], (Ref. 1), as L_a: the maximum allowable containment leakage rate at the calculated maximum peak containment pressure (P_a) of [55.7] psig, which results from the limiting design basis LOCA (Ref. 2).

P_a will conservatively be assumed to be equal to the calculated peak containment internal pressure resulting from the design basis Main Steam Line Break, 51.5 psig (Ref. 3), for the purpose of containment testing in accordance with this Technical Specification.

Satisfactory leakage rate test results are a requirement for the establishment of containment OPERABILITY.

The containment satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Containment OPERABILITY is maintained by limiting leakage to ≤ 1.0 L_a, except prior to the first startup after performing a required Containment Leakage Rate Testing Program leakage test. At this time, the applicable leakage limits must be met.

Compliance with this LCO will ensure a containment configuration, including equipment hatches, that is structurally sound and that will limit leakage to those leakage rates assumed in the safety analysis.

Individual leakage rates specified for the containment air lock (LCO 3.6.2) [and purge valves with resilient seals (LCO 3.6.3)] are not specifically part of the acceptance criteria of 10 CFR 50, Appendix J. Therefore, leakage rates exceeding these individual limits only result in the containment being inoperable when the leakage results in exceeding the overall acceptance criteria of 1.0 L_a.

3

BASES

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material into containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, containment is not required to be OPERABLE in MODE 5 to prevent leakage of radioactive material from containment. The requirements for containment during MODE 6 are addressed in LCO 3.9.3, "Containment Penetrations."

ACTIONS

A.1

In the event containment is inoperable, containment must be restored to OPERABLE status within 1 hour. The 1 hour Completion Time provides a period of time to correct the problem commensurate with the importance of maintaining containment during MODES 1, 2, 3, and 4. This time period also ensures that the probability of an accident (requiring containment OPERABILITY) occurring during periods when containment is inoperable is minimal.

B.1 and B.2

If containment 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 5 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 3.6.1.1

Maintaining the containment OPERABLE requires compliance with the visual examinations and leakage rate test requirements of the Containment Leakage Rate Testing Program.

The containment concrete visual examinations may be performed during either power operation, e.g., performed concurrently with other containment inspection-related activities such as tendon testing, or during a maintenance or refueling outage. The visual examinations of the steel liner plate inside containment are performed during maintenance or refueling outages since this is the only time the liner plate is fully accessible.

3 1

BASES

SURVEILLANCE REQUIREMENTS (continued)

Failure to meet air lock and purge valve with resilient seal leakage limits specified in LCO 3.6.2 and LCO 3.6.3 does not invalidate the acceptability of these overall leakage determinations unless their contribution to overall Type A, B, and C leakage causes that to exceed limits. As left leakage prior to the first startup after performing a required Containment Leakage Rate Testing Program leakage test is required to be ≤ 0.6 L_a for combined Type B and C leakage, and [< 0.75 L_a for Option A] [≤ 0.75 L_a for Option B] for overall Type A leakage. At all other times between required leakage rate tests, the acceptance criteria is based on an overall Type A leakage limit of ≤ 1.0 L_a. At ≤ 1.0 L_a the offsite dose consequences are bounded by the assumptions of the safety analysis. SR Frequencies are as required by the Containment Leakage Rate Testing Program. These periodic testing requirements verify that the containment leakage rate does not exceed the leakage rate assumed in the safety analysis.

SR Frequencies are as required by the Containment Leakage Rate Testing Program. These periodic testing requirements verify that the containment leakage rate does not exceed the leakage rate assumed in the safety analysis.

----------REVIEWER'S NOTE----------
Regulatory Guide 1.163 and NEI 94-01 include acceptance criteria for as-left and as-found Type A leakage rates and combined Type B and C leakage rates, which may be reflected in the Bases.

[SR 3.6.1.2

For ungrouted, post tensioned tendons, this SR ensures that the structural integrity of the containment will be maintained in accordance with the provisions of the Containment Tendon Surveillance Program. Testing and Frequency are in accordance with the ASME Code, Section XI, Subsection IWL (Ref. 4), and applicable addenda as required by 10 CFR 50.55a.]

REFERENCES

1. 10 CFR 50, Appendix J, Option [A][B].
2. FSAR, Section [ ].
3. FSAR, Section [ ].
4. ASME Code, Section XI, Subsection IWL.

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.1 BASES, CONTAINMENT

1. Changes are made (additions, deletions, and/or changes) to the Improved Standard Technical Specification (ISTS) Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The ISTS Bases contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

3. The headings for ISTS 3.6.1 Bases include the parenthetical expression "(Atmospheric)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment.

4. Changes are made to use correct punctuation, correct typographical errors or to make corrections consistent with the Writers Guide for the Improved Standard Technical Specifications, TSTF-GG-05-01.

5. This "Reviewers Note" is being deleted. The Reviewers Note is for the NRC reviewer during the NRC review and will not be part of the plant specific SONGS ITS.

6. These words concerning the Frequency (both sentences) are repeated in the next paragraph. Therefore, this instance of the words describing the Frequency has been deleted.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.1, CONTAINMENT

There are no specific No Significant Hazards Considerations for this Specification.

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ATTACHMENT 2

ITS 3.6.2, CONTAINMENT AIR LOCKS

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ACTIONS

3.6 CONTAINMENT SYSTEMS

3.6.2 Containment Air Locks

LCO 3.6.2 LCO 3.6.2 Two containment air locks shall be OPERABLE.

Applicability APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

ACTIONS Notes

----------NOTES----------

1. Entry and exit is permissible to perform repairs on the affected air lock components.

2. Separate Condition entry is allowed for each air lock.

3. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. One or more containment air locks with one containment air lock door inoperable.	----------NOTES---------- 1. Required Actions A.1, A.2, and A.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit is permissible for 7 days under administrative controls if both air locks are inoperable. ~~3. The provisions of LCO 3.0.4 are not applicable.~~ ----------	A02 (continued)

ITS

A01

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. (continued)	A.1 Verify the OPERABLE door is closed in the affected air lock. AND A.2 Lock the OPERABLE door closed in the affected air lock. AND A.3 --------NOTE--------- Air lock doors in high radiation areas may be verified locked closed by administrative means. ---------- Verify the OPERABLE door is locked closed in the affected air lock.	1 hour 24 hours Once per 31 days
ACTION B B. One or more containment air locks with containment air lock interlock mechanism inoperable.	----------NOTES---------- 1. Required Actions B.1, B.2, and B.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit of containment is permissible under the control of a dedicated individual. ~~3. The provisions of LCO 3.0.4 are not applicable.~~ ----------	A02 (continued)

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ITS

A01

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
ACTION B B. (continued)	B.1	Verify an OPERABLE door is closed in the affected air lock.	1 hour
	AND		
	B.2	Lock an OPERABLE door closed in the affected air lock.	24 hours
	AND		
	B.3	--------NOTE-------- Air lock doors in high radiation areas may be verified locked closed by administrative means. ----------	
		Verify an OPERABLE door is locked closed in the affected air lock.	Once per 31 days
ACTION C C. One or more containment air locks inoperable for reasons other than Condition A or B.	C.1	Initiate action to evaluate overall containment leakage rate per LCO 3.6.1.	Immediately
	AND		
	C.2	Verify a door is closed in the affected air lock.	1 hour
	AND		
	C.3	Restore air lock to OPERABLE status.	24 hours

(continued)

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ITS

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION D D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE ~~3~~ 4.	6 hours ~~36~~ 12 hours

L01

NOTE
LCO 3.0.4.a is not applicable when entering MODE 4.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.1	SR 3.6.2.1 ----------NOTES---------- 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1. ---------- Perform required air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program

(continued)

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ITS

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.2.2	----------NOTE~~S~~---------- ~~1.~~ Only required to be performed upon entry into containment. ~~2. SR 3.0.4 is not applicable.~~	
	Verify only one door in the air lock can be opened at a time.	~~184 days~~

SR 3.6.2.2

A03

LA01

In accordance with the Surveillance Frequency Control Program

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ITS

A01

ACTIONS

3.6 CONTAINMENT SYSTEMS

3.6.2 Containment Air Locks

LCO 3.6.2 LCO 3.6.2 Two containment air locks shall be OPERABLE.

Applicability APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

ACTIONS Notes

----------NOTES----------

1. Entry and exit is permissible to perform repairs on the affected air lock components.

2. Separate Condition entry is allowed for each air lock.

3. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. One or more containment air locks with one containment air lock door inoperable.	----------NOTES---------- 1. Required Actions A.1, A.2, and A.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit is permissible for 7 days under administrative controls if both air locks are inoperable. ~~3. The provisions of LCO 3.0.4 are not applicable.~~ ----------	A02 (continued)

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ITS

A01

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. (continued)	A.1 Verify the OPERABLE door is closed in the affected air lock. AND A.2 Lock the OPERABLE door closed in the affected air lock. AND A.3 --------NOTE--------- Air lock doors in high radiation areas may be verified locked closed by administrative means. ---------- Verify the OPERABLE door is locked closed in the affected air lock.	1 hour 24 hours Once per 31 days
ACTION B B. One or more containment air locks with containment air lock interlock mechanism inoperable.	----------NOTES---------- 1. Required Actions B.1, B.2, and B.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit of containment is permissible under the control of a dedicated individual. ~~3. The provisions of LCO 3.0.4 are not applicable.~~ ----------	A02 (continued)

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ITS

A01

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
ACTION B B. (continued)	B.1	Verify an OPERABLE door is closed in the affected air lock.	1 hour
	AND		
	B.2	Lock an OPERABLE door closed in the affected air lock.	24 hours
	AND		
	B.3	--------NOTE--------- Air lock doors in high radiation areas may be verified locked closed by administrative means. ----------	
		Verify an OPERABLE door is locked closed in the affected air lock.	Once per 31 days
ACTION C C. One or more containment air locks inoperable for reasons other than Condition A or B.	C.1	Initiate action to evaluate overall containment leakage rate per LCO 3.6.1.	Immediately
	AND		
	C.2	Verify a door is closed in the affected air lock.	1 hour
	AND		
	C.3	Restore air lock to OPERABLE status.	24 hours

(continued)

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ITS

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION D D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE ~~3~~ 4.	6 hours ~~36~~ 12 hours

L01

NOTE
LCO 3.0.4.a is not applicable when entering MODE 4.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.1	SR 3.6.2.1 ----------NOTES---------- 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1. ---------- Perform required air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.2.2	----------NOTE~~S~~---------- ~~1.~~ Only required to be performed upon entry into containment. ~~2. SR 3.0.4 is not applicable.~~	
	Verify only one door in the air lock can be opened at a time.	~~184 days~~

SR 3.6.2.2

A03

LA01

In accordance with the Surveillance Frequency Control Program

DISCUSSION OF CHANGES
ITS 3.6.2, CONTAINMENT AIR LOCKS

ADMINISTRATIVE CHANGES

A01 In the conversion of the San Onofre Nuclear Generating Station (SONGS) Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1432, Rev. 3.0, "Standard Technical Specifications Combustion Engineering Plants" (ISTS) and additional approved Technical Specification Task Force (TSTF) travelers included in this submittal.

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A02 CTS 3.6.2 ACTION A and ACTION B contain a Note in the Required Actions which states, “The provisions of LCO 3.0.4 are not applicable." ITS 3.6.2 does not contain this specific exception to LCO 3.0.4. This changes CTS by deleting the specified Note.

This change is considered acceptable because CTS LCO 3.0.4 and ITS LCO 3.0.4 are structured such that these exceptions are not required. The CTS Note effectively allows changes in MODES while in either of the CTS ACTIONS. However, CTS and ITS LCO 3.0.4 already allow entry into a MODE provided the ACTIONS permit continued operation in the MODE for an unlimited amount of time. Thus, the Note is redundant to what is already allowed in CTS and ITS LCO 3.0.4. Therefore, the Note has been deleted. This change is designated as administrative because it deletes reference to a Note that is not required and does not result in technical changes to the CTS.

A03 CTS SR 3.6.2.2 contains the Note (Note 2) that SR 3.0.4 is not applicable. ITS SR 3.6.2.2 does not contain this Note. This changes the CTS by deleting this specific Note.

The purpose of the Note is to allow the plant to enter the MODE of Applicability without performing the required Surveillances. This change is acceptable because the CTS as well as the ITS SR 3.6.2.2 has been written to allow MODE changes without the SR being required to be performed prior to entry into MODES 1, 2, 3, and 4. This allowance in the ITS SR 3.6.2.2 Note serves the same purpose as the CTS Note 2 allowance and is described in CTS and ITS SR 3.0.4. Thus the Note is redundant and has been deleted. This SR change is designated as administrative because it eliminates a CTS provision that is not required because it is already allowed by the remaining SR Note.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

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DISCUSSION OF CHANGES
ITS 3.6.2, CONTAINMENT AIR LOCKS

REMOVED DETAIL CHANGES

LA01 *(Type 4 – Removal of LCO, SR, or other TS requirement to the LCS, UFSAR, ODCM, QAP, CLRT Program, IST Program, ISI Program, or Surveillance Frequency Control Program)* CTS SR 3.6.2.2 requires verification only one door in the air lock can be opened at a time once per 184 days. ITS SR 3.6.2.2 requires a similar Surveillance but specifies the periodic Frequency as "In accordance with the Surveillance Frequency Test Program." This changes the CTS by moving the specified Frequency for the SR and the Bases for the Frequency to the Surveillance Frequency Control Program.

The control of changes to the Surveillance Frequencies will be in accordance with the Surveillance Frequency Control Program. The Program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met. In addition:

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program;

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1; and

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

The referenced document, NEI-04-10, Rev. 1, provides a detailed description of the process to be followed when considering changes to a Surveillance Frequency. NEI-04-10, Rev. 1 has been reviewed and approved by the NRC. Therefore, the process will not be discussed further here.

The relocation of the specified Surveillance Frequencies to licensee control is consistent with Regulatory Guides 1.174 and 1.177. Regulatory Guide 1.177 provides guidance for changing Surveillance Frequencies and Completion Times. However, for allowable risk changes associated with Surveillance Frequency extensions, it refers to Regulatory Guide 1.174, which provides quantitative risk acceptance guidelines for changes to core damage frequency (CDF) and large early release frequency (LERF). Regulatory Guide 1.174 provides additional guidelines that have been adapted in the risk-informed methodology for controlling changes to Surveillance Frequencies.

Regulatory Guide 1.174 identifies five key safety principles to be met for all risk-informed applications and to be explicitly addressed in risk-informed plant program change applications.

1. **The proposed change meets the current regulations unless it is explicitly related to a requested exemption or rule change.**

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DISCUSSION OF CHANGES
ITS 3.6.2, CONTAINMENT AIR LOCKS

10 CFR 50.36(c) provides that TS will include items in the following categories:

"(3) *Surveillance requirements*. Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

This change proposes to relocate various Frequencies for the performance of the Surveillance Requirements to a licensee-controlled program using an NRC approved methodology for control of the Surveillance Frequencies. The Surveillance Requirements themselves will remain in TS. This is consistent with other NRC approved TS changes in which the Surveillance Frequencies are not under NRC control, such as Surveillances that are performed in accordance with the Inservice Testing Program or the Containment Leakage Rate Testing Program, where the Frequencies vary based on the past performance of the subject components. Thus, this proposed change meets criterion 1 above.

2. **The proposed change is consistent with the defense-in-depth philosophy.**

   As described in Position 2.2.1.1 of Regulatory Guide 1.174, consistency with the defense-in-depth philosophy is maintained if:

   - A reasonable balance is preserved among prevention of core damage, prevention of containment failure, and consequence mitigation;
   - Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided;
   - System redundancy, independence, and diversity are preserved commensurate with the expected frequency, consequences of challenges to the system, and uncertainties (e.g., no risk outliers);
   - Defenses against potential common cause failures are preserved, and the potential for the introduction of new common cause failure mechanisms is assessed;
   - Independence of barriers is not degraded;
   - Defenses against human errors are preserved; and
   - The intent of the General Design Criteria in 10 CFR Part 50, Appendix A is maintained.

   These defense-in-depth objectives apply to all risk-informed applications, and for some of the issues involved (e.g., no over-reliance on programmatic activities and defense against human errors), it is fairly straightforward to

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apply them to this proposed change. The use of the multiple risk metrics of CDF and LERF and controlling the change resulting from the implementation of this initiative would maintain a balance between prevention of core damage, prevention of containment failure, and consequence mitigation. Redundancy, diversity, and independence of safety systems are considered as part of the risk categorization to ensure that these qualities are not adversely affected. Independence of barriers and defense against common cause failures are also considered in the categorization. The improved understanding of the relative importance of plant components to risk resulting from the development of this program promotes an improved overall understanding of how the SSCs contribute to the plant's defense-in-depth.

3. **The proposed change maintains sufficient safety margins.**

   Conformance with this principle is assured since SSC design, operation, testing methods and acceptance criteria specified in the Codes and Standards or alternatives approved for use by the NRC, will continue to be met as described in the plant licensing basis (e.g., UFSAR, or Technical Specifications Bases). Also, the safety analysis acceptance criteria in the licensing basis (e.g., UFSAR, supporting analyses, etc.) are met with the proposed change.

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.**

   NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," will require that changes in core damage frequency or risk are small and consistent with the intent of the Commission's Safety Goal Policy.

5. **The impact of the proposed change should be monitored using performance measurement strategies.**

   NEI 04-10 will require that changes in Surveillance Frequencies be monitored using performance management strategies.

Therefore, the proposed change is consistent with the guidance in Regulatory Guide 1.174.

This change is designated as a less restrictive removal of detail change because a Surveillance Frequency is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L01 *(Category 4 – Relaxation of Required Action)* CTS 3.6.2 ACTION D provides the actions when any Required Action and associated Completion Time of ACTION A, B, or C is not met. It requires the unit to be in MODE 3 in 6 hours and MODE 5 in 36 hours. ITS 3.6.2 ACTION D provides the actions to be taken under the same conditions. However, it requires the unit to be in MODE 3 in 6 hours and MODE 4 in 12 hours. Furthermore, the Required Action to be in

DISCUSSION OF CHANGES
ITS 3.6.2, CONTAINMENT AIR LOCKS

MODE 4 is modified by a Note that states "LCO 3.0.4.a is not applicable when entering MODE 4." This changes the CTS by eliminating the requirement for the Unit to be in MODE 5 within 36 hours and only requires the Unit to be in MODE 4 within 12 hours.

The purpose of CTS 3.6.2 ACTION D is to place the unit in a condition where the LCO is not applicable. The proposed change, which is consistent with TSTF-422, allows the plant end state to conclude at MODE 4 within 12 hours versus MODE 5 within 36 hours. This change is based on a topical report, CE NPSD-01186 (approved by NRC on July 17, 2001), which justified a modified end state for some TS allowed outage time requirements of which the containment air locks is one. The topical report demonstrates through probabilistic and deterministic safety evaluations that the proposed end states represent a condition of equal or lower risk than the original end states. Preventing plant challenges during shutdown conditions has been, and continues to be, an important aspect of ensuring safe operation of the plant. Past events demonstrate that risk of core damage associated with entry into, and operation in, shutdown cooling is not negligible and should be considered when a plant is required to shutdown. Therefore, the Technical Specifications should encourage plant operation in the steam generator heat removal mode whenever practical, and require reliance on shutdown cooling only when it is a risk beneficial alternative to other actions.

The Note which modifies Required Action D.2 prohibits entry into the end state Mode of Applicability during startup using the provisions of LCO 3.0.4.a. The purpose of this Note is to provide assurance that entry into the end state Mode of Applicability during startup is not made without the appropriate risk assessment. Entry into the end state Mode of Applicability during startup will still be allowed under the provisions of LCO 3.0.4.b. This is acceptable because LCO 3.0.4.b allows entry only after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate. Details of the risk assessment are provided in the Bases for LCO 3.0.4.b.

SONGS will adopt the end states proposed in TSTF-422 and will perform a risk assessment in accordance with 10 CFR 50.65(a)(4) when using the end states regardless of whether maintenance is being performed. The risk assessment will follow Regulatory Guide 1.182, “Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants,” which endorses NUMARC 93-01, “Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants,” Section 11 guidance for implementation of 10 CFR 50.65(a)(4). SONGS will also follow the industry-developed implementation guidance, WCAP-16364-NP, Revision 0, "Implementation Guidance for Risk Informed Modification to Selected Required Action End States at Combustion Engineering NSSS Plants (TSTF-422)," November 2004.

This change is designated as less restrictive because it relaxes the end state from MODE 5 to MODE 4.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

2

3.6 CONTAINMENT SYSTEMS

3.6.2 Containment Air Locks (Atmospheric and Dual)

2

LCO 3.6.2

LCO 3.6.2 [Two] containment air lock[s] shall be OPERABLE.

3

Applicability

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

ACTIONS Notes

----------NOTES----------

1. Entry and exit is permissible to perform repairs on the affected air lock components.
2. Separate Condition entry is allowed for each air lock.
3. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. One or more containment air locks with one containment air lock door inoperable.	----------NOTES---------- 1. Required Actions A.1, A.2, and A.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit is permissible for 7 days under administrative controls [if both air locks are inoperable]. ---------- A.1 Verify the OPERABLE door is closed in the affected air lock. AND	1 hour

3

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San Onofre -- Draft

Amendment XXX

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A	A.2 Lock the OPERABLE door closed in the affected air lock. AND A.3 ----------NOTE---------- Air lock doors in high radiation areas may be verified locked closed by administrative means. ---------- Verify the OPERABLE door is locked closed in the affected air lock.	24 hours Once per 31 days
ACTION B B. One or more containment air locks with containment air lock interlock mechanism inoperable.	----------NOTES---------- 1. Required Actions B.1, B.2, and B.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit of containment is permissible under the control of a dedicated individual. ---------- B.1 Verify an OPERABLE door is closed in the affected air lock. AND	 1 hour

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION B	B.2 Lock an OPERABLE door closed in the affected air lock. AND B.3 ----------NOTE---------- Air lock doors in high radiation areas may be verified locked closed by administrative means. ---------- Verify an OPERABLE door is locked closed in the affected air lock.	24 hours Once per 31 days
ACTION C C. One or more containment air locks inoperable for reasons other than Condition A or B.	C.1 Initiate action to evaluate overall containment leakage rate per LCO 3.6.1. AND C.2 Verify a door is closed in the affected air lock. AND C.3 Restore air lock to OPERABLE status.	Immediately 1 hour 24 hours
ACTION D D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE ~~5~~ 4.	6 hours ~~36~~ 12 hours

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----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 4.

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.2.1	SR 3.6.2.1 ----------NOTES---------- 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1. ---------- Perform required air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program
SR 3.6.2.2	SR 3.6.2.2 Verify only one door in the air lock can be opened at a time.	24 months In accordance with the Surveillance Frequency Control Program

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NOTE
Only required to be performed upon entry into containment.

4

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.2, CONTAINMENT AIR LOCKS

1. Changes are made (additions, deletions, and/or changes) to the ISTS which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.2 include the parenthetical expression "(Atmospheric and Dual)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment.

3. The ISTS contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

4. A Note is being added to the ITS that states, "Only required to be performed upon entry into containment." This Note is in the CTS and is being retained in the conversion to ITS because the current frequency of the SR is 184 days. The Note was originally deleted from the ISTS when the Frequency was changed from 184 days to a refueling outage Frequency as part of TSTF-17. However, as part of adopting TSTF-425, the current Frequency must be relocated to the Surveillance Frequency Control Program. Thus, the current 184 day Frequency must be initially included in this Program. Since the Frequency extension to 24 months cannot be justified at this time and as part of this ITS submittal, the Note must remain to be consistent with the previous ISTS SR Note allowance when the Frequency was at 184 days. The addition of the Note would allow waiting until a containment entry is required prior to performing the SR instead of having to make a containment entry to perform the SR which would not be in accordance with ALARA principles. Also, since the doors are locked closed during power operation there is no need for the interlocks except when a containment entry is required.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Bases Justification for Deviations (JFDs)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2 Containment Air Locks (Atmospheric and Dual) 3

BASES

BACKGROUND

Containment air locks form part of the containment pressure boundary and provide a means for personnel access during all MODES of operation.

Each air lock is nominally a right circular cylinder, 10 ft in diameter, with a door at each end. The doors are interlocked to prevent simultaneous opening. During periods when containment is not required to be OPERABLE, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary. Each air lock door has been designed and tested to certify its ability to withstand a pressure in excess of the maximum expected pressure following a Design Basis Accident (DBA) in containment. As such, closure of a single door supports containment OPERABILITY. Each of the doors contains double gasketed seals and local leakage rate testing capability to ensure pressure integrity. To effect a leak tight seal, the air lock design uses pressure seated doors (i.e., an increase in containment internal pressure results in increased sealing force on each door).

Each personnel air lock is provided with limit switches on both doors that provide control room indication of door position. Additionally, control room indication is provided to alert the operator whenever an air lock door interlock mechanism is defeated. 1

The containment air locks form part of the containment pressure boundary. As such, air lock integrity and leak tightness is essential for maintaining the containment leakage rate within limit in the event of a DBA. Not maintaining air lock integrity or leak tightness may result in a leakage rate in excess of that assumed in the unit safety analysis.

APPLICABLE SAFETY ANALYSES

[For atmospheric containment, the DBAs that result in a release of radioactive material within containment are a loss of coolant accident (LOCA), a main steam line break (MSLB) and a control element assembly (CEA) ejection accident (Ref. 2). In the analysis of each of these accidents, it is assumed that containment is OPERABLE such that release of fission products to the environment is controlled by the rate of containment leakage. The containment was designed with an allowable leakage rate of [0.10]% of containment air weight per day (Ref. 3). This leakage rate is defined in 10 CFR 50, Appendix J, Option A (Ref. 1), as 2

2

B

3

BASES

APPLICABLE SAFETY ANALYSES (continued)

P_a will conservatively be assumed to be equal to the calculated peak containment internal pressure resulting from the design basis Main Steam Line Break, 51.5 psig (Ref. 3), for the purpose of containment testing in accordance with this Technical Specification.

L_a: the maximum allowable containment leakage rate at the calculated [maximum] peak containment pressure (P_a) of [55.7] psig, which results from the limiting design basis LOCA. This allowable leakage rate forms the basis for the acceptance criteria imposed on the SRs associated with the air lock.

48.0

For dual containment, the DBAs that result in a release of radioactive material within containment are a LOCA, an MSLB, and a CEA ejection accident (Ref. 2). In the analysis of each of these accidents, it is assumed that containment is OPERABLE such that release of fission products to the environment is controlled by the rate of containment leakage. The containment was designed with an allowable leakage rate of [0.50]% of containment air weight per day (Ref. 3). This leakage rate is defined in 10 CFR 50, Appendix J, Option A (Ref. 1), as L_a: the maximum allowable containment leakage rate at the calculated [maximum] peak containment pressure (P_a) of [42.3] psig, which results from the limiting design basis LOCA. This allowable leakage rate forms the basis for the acceptance criteria imposed on the SRs associated with the air lock.]

2

The containment air locks satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Each containment air lock forms part of the containment pressure boundary. As part of the containment pressure boundary, the air lock safety function is related to control of the containment leakage rate resulting from a DBA. Thus, each air lock's structural integrity and leak tightness are essential to the successful mitigation of such an event.

Each air lock is required to be OPERABLE. For the air lock to be considered OPERABLE, the air lock interlock mechanism must be OPERABLE, the air lock must be in compliance with the Type B air lock leakage test, and both air lock doors must be OPERABLE. The interlock allows only one air lock door of an air lock to be opened at one time. This provision ensures that a gross breach of containment does not exist when containment is required to be OPERABLE. Closure of a single door in each air lock is sufficient to provide a leak tight barrier following postulated events. Nevertheless, both doors are kept closed when the air lock is not being used for normal entry into or exit from containment.

1

BASES

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the containment air locks are not required in MODE 5 to prevent leakage of radioactive material from containment. The requirements for the containment air locks during MODE 6 are addressed in LCO 3.9.3, "Containment Penetrations."

ACTIONS

The ACTIONS are modified by a Note that allows entry and exit to perform repairs on the affected air lock component. If the outer door is inoperable, then it may be easily accessed for most repairs. It is preferred that the air lock be accessed from inside primary containment 1 by entering through the other OPERABLE air lock. However, if this is not practicable, or if repairs on either door must be performed from the barrel side of the door then it is permissible to enter the air lock through the OPERABLE door, which means there is a short time during which the containment boundary is not intact (during access through the OPERABLE door). The ability to open the OPERABLE door, even if it means the containment boundary is temporarily not intact, is acceptable because of the low probability of an event that could pressurize the containment during the short time in which the OPERABLE door is expected to be open. After each entry and exit, the OPERABLE door must be immediately closed. If ALARA conditions permit, entry and exit should be via an OPERABLE air lock.

A second Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each air lock. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable air lock. Complying with the Required Actions may allow for continued operation, and a subsequent inoperable air lock is governed by subsequent Condition entry and application of associated Required Actions. A third Note has been included that requires entry into the applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage limit.

A.1, A.2, and A.3

With one air lock door inoperable in one or more containment air locks, the OPERABLE door must be verified closed (Required Action A.1) in each affected containment air lock. This ensures that a leak tight containment barrier is maintained by the use of an OPERABLE air lock door. This action must be completed within 1 hour. This specified time period is consistent with the ACTIONS of LCO 3.6.1, which requires containment be restored to OPERABLE status within 1 hour.

BASES

ACTIONS (continued)

In addition, the affected air lock penetration must be isolated by locking closed an OPERABLE air lock door within the 24 hour Completion Time. The 24 hour Completion Time is considered reasonable for locking the OPERABLE air lock door, considering the OPERABLE door of the affected air lock is being maintained closed.

Required Action A.3 verifies that an air lock with an inoperable door has been isolated by the use of a locked and closed OPERABLE air lock door. This ensures that an acceptable containment leakage boundary is maintained. The Completion Time of once per 31 days is based on engineering judgment and is considered adequate in view of the low likelihood of a locked door being mispositioned and other administrative controls. Required Action A.3 is modified by a Note that applies to air lock doors located in high radiation areas and allows these doors to be verified locked closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of the door, once it has been verified to be in the proper position, is small.

The Required Actions have been modified by two Notes. Note 1 ensures that only the Required Actions and associated Completion Times of Condition C are required if both doors in the same air lock are inoperable. With both doors in the same air lock inoperable, an OPERABLE door is not available to be closed. Required Actions C.1 and C.2 are the appropriate remedial actions. The exception of Note 1 does not affect tracking the Completion Time from the initial entry into Condition A; only the requirement to comply with the Required Actions. Note 2 allows use of the air lock for entry and exit for 7 days under administrative controls if both air locks have an inoperable door. This 7 day restriction begins when the second air lock is discovered inoperable. Containment entry may be required to perform Technical Specifications (TS) Surveillances and Required Actions, as well as other activities on equipment inside containment that are required by TS or activities on equipment that support TS-required equipment. This Note is not intended to preclude performing other activities (i.e., non-TS-required activities) if the containment was entered, using the inoperable air lock, to perform an allowed activity listed above. This allowance is acceptable due to the low probability of an event that could pressurize the containment during the short time that the OPERABLE door is expected to be open.

BASES

ACTIONS (continued)

B.1, B.2, and B.3

With an air lock interlock mechanism inoperable in one or more air locks, the Required Actions and associated Completion Times are consistent with those specified in Condition A.

The Required Actions have been modified by two Notes. Note 1 ensures that only the Required Actions and associated Completion Times of Condition C are required if both doors in the same air lock are inoperable. With both doors in the same air lock inoperable, an OPERABLE door is not available to be closed. Required Actions C.1 and C.2 are the appropriate remedial actions. Note 2 allows entry into and exit from containment under the control of a dedicated individual stationed at the air lock to ensure that only one door is opened at a time (i.e., the individual performs the function of the interlock).

Required Action B.3 is modified by a Note that applies to air lock doors located in high radiation areas and allows these doors to be verified locked closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of the door, once it has been verified to be in the proper position, is small.

C.1, C.2, and C.3

With one or more air locks inoperable for reasons other than those described in Condition A or B, Required Action C.1 requires action to be initiated immediately to evaluate previous combined leakage rates using current air lock test results. An evaluation is acceptable since it is overly conservative to immediately declare the containment inoperable if both doors in an air lock have failed a seal test or if the overall air lock leakage is not within limits. In many instances (e.g., only one seal per door has failed), containment remains OPERABLE, yet only 1 hour (per LCO 3.6.1) would be provided to restore the air lock door to OPERABLE status prior to requiring a plant shutdown. In addition, even with both doors failing the seal test, the overall containment leakage rate can still be within limits.

Required Action C.2 requires that one door in the affected containment air lock must be verified to be closed. This action must be completed within the 1 hour Completion Time. This specified time period is consistent with the ACTIONS of LCO 3.6.1, which requires that containment be restored to OPERABLE status within 1 hour.

3

BASES

ACTIONS (continued)

Additionally, the affected air lock(s) must be restored to OPERABLE status within the 24 hour Completion Time. The specified time period is considered reasonable for restoring an inoperable air lock to OPERABLE status, assuming that at least one door is maintained closed in each affected air lock.

D.1 and D.2

If the inoperable containment air lock 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 5 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.

the overall plant risk is minimized

4

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INSERT 1

INSERT 2

SURVEILLANCE REQUIREMENTS

SR 3.6.2.1

Maintaining containment air locks OPERABLE requires compliance with the leakage rate test requirements of the Containment Leakage Rate Testing Program. This SR reflects the leakage rate testing requirements with regard to air lock leakage (Type B leakage tests). The acceptance criteria were established during initial air lock and containment OPERABILITY testing. The periodic testing requirements verify that the air lock leakage does not exceed the allowed fraction of the overall containment leakage rate. The Frequency is required by the Containment Leakage Rate Testing Program.

The SR has been modified by two Notes. Note 1 states that an inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. This is considered reasonable since either air lock door is capable of providing a fission product barrier in the event of a DBA. Note 2 has been added to this SR requiring the results to be evaluated against the acceptance criteria which is applicable to SR 3.6.1.1. This ensures that air lock leakage is properly accounted for in determining the combined Type B and C containment leakage rate.

1

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INSERT 1

Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 4). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state.

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INSERT 2

Required Action D.2 is modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate, LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.2.2

The air lock interlock is designed to prevent simultaneous opening of both doors in a single air lock. Since both the inner and outer doors of an air lock are designed to withstand the maximum expected post accident containment pressure, closure of either door will support containment OPERABILITY. Thus, the door interlock feature supports containment OPERABILITY while the air lock is being used for personnel transit into and out of containment. Periodic testing of this interlock demonstrates that the interlock will function as designed and that simultaneous opening of the inner and outer doors will not inadvertently occur. Due to the purely mechanical nature of this interlock, and given that the interlock mechanism is not normally challenged when the containment airlock door is used for entry and exit (procedures require strict adherence to single door opening), this test is only required to be performed every 24 months.

The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage, and the potential for loss of containment OPERABILITY if the Surveillance were performed with the reactor at power. The 24 month Frequency for the interlock is justified based on generic operating experience. The 24 month Frequency is based on engineering judgment and is considered adequate given that the interlock is not challenged during the use of the airlock.

REFERENCES

1. 10 CFR 50, Appendix J, Option [A][B].
2. FSAR, Section [ ].
3. FSAR, Section [ ].

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INSERT 3

The Frequency is controlled under the Surveillance Frequency Control Program. 6

---------- Reviewers Note ----------
Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement. 4

TSTF-422-A

INSERT 4

4. CE NPSD-1186-A Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001.

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.2 BASES, CONTAINMENTAIR LOCKS

1. Changes are made (additions, deletions, and/or changes) to the Improved Standard Technical Specification (ISTS) Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The ISTS Bases contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

3. The headings for ISTS 3.6.2 Bases include the parenthetical expression "(Atmospheric and Dual)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment.

4. This "Reviewers Note" is being deleted. The Reviewers Note is for the NRC reviewer during the NRC review and will not be part of the plant specific SONGS ITS.

5. Changes are made to the Bases to be consistent with changes made to the Specifications.

6. The Bases words changed by TSTF-425 have been modified to state "The Frequency is controlled under the Surveillance Frequency Control Program." The Surveillance Frequency Control Program provides the details for how to change the Frequencies, thus the TSTF-425 words concerning operating experience, equipment reliability, and plant risk is not always true for each of the Frequencies.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.2, CONTAINMENT AIR LOCKS

There are no specific No Significant Hazards Considerations for this Specification.

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ATTACHMENT 3

ITS 3.6.3, CONTAINMENT ISOLATION VALVES

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS

A01

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves

LCO 3.6.3 LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

Applicability APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

ACTION Notes

----------NOTES----------

1. Penetration flow paths except for 42 inch purge valve penetration flow paths may be unisolated intermittently under administrative controls.

2. Separate Condition entry is allowed for each penetration flow path.

3. Enter applicable Conditions and Required Actions for system(s) made inoperable by containment isolation valves.

4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage rate acceptance criteria.

~~5. Section A, B, C, D, and E isolation valves are located in the Licensee Controlled Specifications (LCS).~~

A02

~~6. The Provisions of LCO 3.0.4 are not applicable.~~

A03

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. ---------NOTE--------- Only applicable to penetration flow paths with two containment isolation valves. ---------- One or more penetration flow paths with one containment isolation valve inoperable ~~except for purge valve leakage not within limit~~.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours

A11

A11

A04

Section A, B, C, or E

for reasons other than Condition D

(continued)

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ITS

A01

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. (continued)	A.2 --------NOTE-------- ~~Valves and blind flanges~~ in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
ACTION B B. ---------NOTE--------- Only applicable to penetration flow paths with two Section A, B, C, or E containment isolation valves. ---------- One or more penetration flow paths with two Section A, B, C, or E containment isolation valves inoperable ~~except for purge valve leakage not within limit~~.	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour

S

1. Isolation devices

2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means.

for reasons other than Condition D

A05

L01

A04

(continued)

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ITS

A01

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION C C. ---------NOTE--------- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. ---------- One or more penetration flow paths with one Section A, B, C, or E containment isolation valve inoperable.	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND C.2 --------NOTE--------- ~~Valves and blind flanges~~ in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	~~4~~ 72 hours Once per 31 days
ACTION D D. One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.	D.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve with resilient seals, closed manual valve with resilient seals, or blind flange. AND	24 hours (continued)

L02

S

1. Isolation devices

A05

L01

2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means.

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ITS

A01

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION D D. (continued)	D.2 S --------NOTE-------- 1. Isolation devices ~~Valves and blind flanges~~ in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	A05 L01 Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
	AND	
	D.3 Perform SR 3.6.3.6 for the resilient seal purge valves closed to comply with Required Action D.1.	Once per 184 days

(continued)

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ITS

A01

ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION E	E. One or more Section D.1 containment isolation valve(s) inoperable.	E.1 Secure the inoperable valve(s) in its ESFAS actuated position. AND E.2 Restore the inoperable valve(s) to OPERABLE status.	In accordance with the applicable LCO pertaining to the ESF system in which it is installed. Prior to entering MODE 4 from MODE 5 if MODE 5 entered within 30 days, otherwise within 30 days
ACTION F	F. One or more Section D.2 containment isolation valve(s) inoperable.	F.1 Secure the inoperable valve(s) in its ESFAS actuated position. AND F.2 Restore the inoperable valve(s) to OPERABLE status.	In accordance with the applicable LCO pertaining to the ESF system in which it is installed. Prior to entering MODE 4 from MODE 5.
ACTION G, ACTION H	G. Required Action and associated Completion Time not met.	G.1 Be in MODE 3. AND G.2 Be in MODE ~~5~~ 4.	6 hours ~~36~~ 12 hours

L03

Note that new ITS ACTION H remains identical to CTS ACTION G and is applicable to Condition B only.

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 4.

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ITS

A01

SURVEILLANCE REQUIREMENTS

~~----------NOTE----------~~
~~Section A, B, C, D, and E isolation valves are located in the LCS.~~
~~----------~~

A02

	SURVEILLANCE	FREQUENCY
SR 3.6.3.1	SR 3.6.3.1 Verify each 42 inch purge valve is sealed closed except for one purge valve in a penetration flow path while in Condition D of this LCO.	~~31 days~~ In accordance with the Surveillance Frequency Control Program (LA01)
SR 3.6.3.2	SR 3.6.3.2 Verify each 8 inch purge valve is closed except when the 8 inch purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	~~31 days~~ (LA01)
SR 3.6.3.3	SR 3.6.3.3 ----------NOTE~~S~~---------- ~~1.~~ Valves and blind flanges in high radiation areas may be verified by use of administrative means. ~~2. SR 3.0.4 is not applicable~~ ---------- Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	(A06) ~~31 days~~ In accordance with the Surveillance Frequency Control Program (LA01)

(continued)

ITS

A01

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.4	SR 3.6.3.4 ----------NOTE~~S~~---------- ~~1.~~ Valves and blind flanges in high radiation areas may be verified by use of administrative means. ~~2. SR 3.0.4 is not applicable.~~ ---------- Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days
SR 3.6.3.5	SR 3.6.3.5 Verify the isolation time of each ~~Section A and B power operated and each~~ automatic containment isolation valve is within limits. power operated	In accordance with the Inservice Testing Program
SR 3.6.3.6	SR 3.6.3.6 ~~NOTES~~ ~~Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1.~~ Perform leakage rate testing for containment purge valves with resilient seals.	In accordance with the Surveillance Frequency Control Program ~~184 days~~ AND Within 92 days after opening the valve

A06

A07

A08

LA01

(continued)

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ITS

A01

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.7	~~NOTES~~ ~~1. The provisions of the Inservice Testing Program are not applicable when the valves are secured open.~~ ~~2. SR 3.0.4 is not applicable.~~ ~~Verify each Section D1 and D2 containment isolation valve is OPERABLE.~~	~~In accordance with the Inservice Testing Program and those SRs associated with those Specifications pertaining to each valve or system in which it is installed~~
SR 3.6.3.8	SR 3.6.3.8 Verify each ~~Section A, B, C, and E~~ automatic containment isolation valve that is not locked, sealed, or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	~~24 months~~ In accordance with the Surveillance Frequency Control Program

SR 3.6.3.7

Not used.

A09

SR 3.6.3.8

A10

LA01

L04

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A01

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves

LCO 3.6.3 LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

Applicability APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

ACTION Notes

----------NOTES----------

1. Penetration flow paths except for 42 inch purge valve penetration flow paths may be unisolated intermittently under administrative controls.

2. Separate Condition entry is allowed for each penetration flow path.

3. Enter applicable Conditions and Required Actions for system(s) made inoperable by containment isolation valves.

4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage rate acceptance criteria.

~~5. Section A, B, C, D, and E isolation valves are located in the Licensee Controlled Specifications (LCS).~~

A02

~~6. The Provisions of LCO 3.0.4 are not applicable.~~

A03

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. ---------NOTE--------- Only applicable to penetration flow paths with two containment isolation valves. ---------- One or more penetration flow paths with one containment isolation valve inoperable ~~except for purge valve leakage not within limit~~.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours

Section A, B, C, or E

for reasons other than Condition D

A11

A11

A04

(continued)

ITS

A01

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. (continued)	A.2 --------NOTE-------- ~~Valves and blind flanges~~ in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
ACTION B B. ---------NOTE--------- Only applicable to penetration flow paths with two Section A, B, C, or E containment isolation valves. ---------- One or more penetration flow paths with two Section A, B, C, or E containment isolation valves inoperable ~~except for purge valve leakage not within limit~~.	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour

S

1. Isolation devices

2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means.

for reasons other than Condition D

A05

L01

A04

(continued)

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ITS

A01

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION C C. ---------NOTE--------- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. ---------- One or more penetration flow paths with one Section A, B, C, or E containment isolation valve inoperable.	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND C.2 --------NOTE--------- ~~Valves and blind flanges~~ in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	~~4~~ 72 hours Once per 31 days
ACTION D D. One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.	D.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve with resilient seals, closed manual valve with resilient seals, or blind flange. AND	24 hours (continued)

L02

S

1. Isolation devices

A05

L01

2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means.

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ITS

A01

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION D D. (continued)	D.2 --------NOTE-------- ~~Valves and blind flanges~~ in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	A05 L01 Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
	AND	
	D.3 Perform SR 3.6.3.6 for the resilient seal purge valves closed to comply with Required Action D.1.	Once per 184 days

S

1. Isolation devices

2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means.

(continued)

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ITS

A01

ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION E	E. One or more Section D.1 containment isolation valve(s) inoperable.	E.1 Secure the inoperable valve(s) in its ESFAS actuated position. AND E.2 Restore the inoperable valve(s) to OPERABLE status.	In accordance with the applicable LCO pertaining to the ESF system in which it is installed. Prior to entering MODE 4 from MODE 5 if MODE 5 entered within 30 days, otherwise within 30 days
ACTION F	F. One or more Section D.2 containment isolation valve(s) inoperable.	F.1 Secure the inoperable valve(s) in its ESFAS actuated position. AND F.2 Restore the inoperable valve(s) to OPERABLE status.	In accordance with the applicable LCO pertaining to the ESF system in which it is installed. Prior to entering MODE 4 from MODE 5.
ACTION G, ACTION H	G. Required Action and associated Completion Time not met.	G.1 Be in MODE 3. AND G.2 Be in MODE ~~5~~ 4.	6 hours ~~36~~ 12 hours

L03

Note that new ITS ACTION H remains identical to CTS ACTION G and is applicable to Condition B only.

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 4.

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ITS

A01

SURVEILLANCE REQUIREMENTS

~~NOTE~~
~~Section A, B, C, D, and E isolation valves are located in the LCS.~~

A02

	SURVEILLANCE	FREQUENCY
SR 3.6.3.1	SR 3.6.3.1 Verify each 42 inch purge valve is sealed closed except for one purge valve in a penetration flow path while in Condition D of this LCO.	~~31 days~~ In accordance with the Surveillance Frequency Control Program
SR 3.6.3.2	SR 3.6.3.2 Verify each 8 inch purge valve is closed except when the 8 inch purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	~~31 days~~
SR 3.6.3.3	SR 3.6.3.3 ----------NOTE~~S~~---------- ~~1.~~ Valves and blind flanges in high radiation areas may be verified by use of administrative means. ~~2. SR 3.0.4 is not applicable~~ ---------- Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	~~31 days~~ In accordance with the Surveillance Frequency Control Program

LA01

LA01

A06

LA01

(continued)

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ITS

A01

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.3.4	SR 3.6.3.4 ----------NOTE~~S~~---------- ~~1.~~ Valves and blind flanges in high radiation areas may be verified by use of administrative means. ~~2. SR 3.0.4 is not applicable.~~ ---------- A06 Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days
SR 3.6.3.5	SR 3.6.3.5 Verify the isolation time of each ~~Section A and B power operated and each~~ automatic containment isolation valve is within limits. power operated	In accordance with the Inservice Testing Program A07
SR 3.6.3.6	SR 3.6.3.6 ~~----------NOTES----------~~ ~~Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1~~ ~~----------~~ Perform leakage rate testing for containment purge valves with resilient seals.	In accordance with the Surveillance Frequency Control Program A08 ~~184 days~~ LA01 AND Within 92 days after opening the valve

(continued)

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ITS

A01

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.7	~~NOTES~~ ~~1. The provisions of the Inservice Testing Program are not applicable when the valves are secured open.~~ ~~2. SR 3.0.4 is not applicable.~~ Not used. ~~Verify each Section D1 and D2 containment isolation valve is OPERABLE.~~	~~In accordance with the Inservice Testing Program and those SRs associated with those Specifications pertaining to each valve or system in which it is installed~~
SR 3.6.3.8	Verify each ~~Section A, B, C, and E~~ automatic containment isolation valve that is not locked, sealed, or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	~~24 months~~ In accordance with the Surveillance Frequency Control Program

SR 3.6.3.7

SR 3.6.3.8

A09

A10

LA01

L04

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DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

ADMINISTRATIVE CHANGES

A01 In the conversion of the San Onofre Nuclear Generating Station (SONGS) Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1432, Rev. 3.0, "Standard Technical Specifications Combustion Engineering Plants" (ISTS) and additional approved Technical Specification Task Force (TSTF) travelers included in this submittal.

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A02 CTS 3.6.3 ACTIONS and Surveillance Requirements contain a Note which states Section A, B, C, D, and E isolation valves are located in the Licensee Controlled Specification (LCS). ITS 3.6.3 does not contain this information type of Note. This changes the CTS by deleting the specified Note that specifically states the specific section isolation valves are located in the LCS.

This change, to eliminate the information type of Note that specifies Section A, B, C, D, and E isolation valves are located in the LCS, is acceptable, because the information exists in the CTS Bases. This detailed information is not needed in the Specifications. This change is designated as administrative because it does not result in any technical change to the CTS.

A03 CTS 3.6.3 ACTIONS contain a Note which states, "The provisions of LCO 3.0.4 are not applicable." ITS 3.6.3 does not contain this specific exception to LCO 3.0.4. This changes CTS by deleting the specified ACTIONS Note.

This change is considered acceptable because CTS 3.0.4 is structured such that these exceptions are not required. The CTS Note effectively allows changes in MODES while in the CTS ACTIONS. However, CTS and ITS LCO 3.0.4 already allow entry into a MODE provided the ACTIONS permit continued operation in the MODE for an unlimited amount of time. Thus, the Note is redundant to what is already allowed in CTS and ITS LCO 3.0.4. Therefore, the Note has been deleted. This change is designated as administrative because it deletes reference to a Note that is not required and does not result in technical changes to the CTS.

A04 CTS 3.6.3 Condition A and Condition B contain an exception for purge valve leakage not within limits. ITS 3.6.3 Condition A and Condition B contain the same exception, but in lieu of specifically identifying the purge valves, states it as, "for reasons other than Condition D." This changes the CTS by replacing the current exception for purge valves with an exception for Condition D, which is for purge valves.

This change is acceptable because the replacement of the current exception for purge valves with "for reasons other than Condition D" is a wording change only and does not affect the meaning of the Condition or how it is applied. Condition D is the Condition for purge valves. This change is considered

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administrative because it consists of a wording change only that does not affect the application of the Condition.

A05 CTS 3.6.3 Required Actions A.2, C.2, and D.2 contain a Note that allows valves and blind flanges in high radiation areas to be verified by use of administrative means. ITS 3.6.3 Required Actions A.2, C.2, and D.2 contain a Note (Note 1) which allows "isolation devices" in high radiation areas to be verified by use of administrative means." This changes the CTS by changing "Valves and blind flanges" to "Isolation devices."

Changing the words valves and blind flanges to isolation devices does not change the intent of the CTS. CTS 3.6.3 Required Actions A.1, C.1, and D.1 lists the required devices used to isolate the penetration. In each case valves and blind flanges are the devices. This change is considered administrative because it consists of a wording change only that does not affect the meaning or application of the Required Action.

A06 CTS SR 3.6.3.3 and SR 3.6.3.4 contain a Note (Note 2) that SR 3.0.4 is not applicable. ITS SR 3.6.3.3 and SR 3.6.3.4 do not contain this Note. This changes the CTS by deleting this specific Note.

The purpose of the Note is to allow the plant to enter the MODE of Applicability without performing the required Surveillances. The deletion of this Note from CTS SR 3.6.3.3 and SR 3.6.3.4 is acceptable because the allowance to change MODES is already allowed in the Surveillance Requirements. The exception to SR 3.0.4 is intended for those cases when the valves applicable to these SRs are open under administrative controls. The SRs require verification that the applicable valves that are not locked, sealed, or otherwise secured and are required to be closed during accident conditions are closed. There is an exception written into the SRs that allows the applicable valves to be opened under administrative controls. This exception, which is written into each of the SRs, precludes the need for the Note. Since the SRs allow valves to be opened under administrative controls, nothing in the CTS or ITS would preclude MODE changes when the valves are open. Thus, the Note is redundant in both SRs and has been deleted. This change is designated as administrative because it eliminates a CTS provision that is not required because it is already allowed.

A07 CTS SR 3.6.3.5 requires the verification of the isolation time of each Section A and B power operated and each automatic containment isolation valve is within limits. ITS SR 3.6.3.5 requires verification of the isolation time of each automatic power operated containment isolation valve is within limits. This changes the CTS by deleting specific reference to Section A and B power operated valve and adds "power operated" in front of "containment isolation…"

This change revises SR 3.6.3.5 (consistent with the NUREG-1432 as revised by TSTF-46) to delete the reference to verifying the isolation time of "each Section A and B power operated" containment isolation valve and only requires verification of each automatic "power operated" isolation valve. Section A valves are automatic power operated containment isolation valves and Section B valves are automatic power operated containment purge valves. The Bases for this SR state that the "isolation time test ensures the valve will isolate in a time period

less than or equal to that assumed in the safety analysis." Sections A and B valves are the only power operated automatic valves. While there are other power operated containment isolation valves that are other Section valves (like the Section D and E valves), none are automatic containment isolation valves (i.e., they do not receive an automatic containment isolation signal). These power operated valves do not have an isolation time as assumed in the accident analyses since they require operator action. Therefore, changing the requirement to include all automatic power operated valves encompasses all the current valves required by CTS SR 3.6.3.5. This change is designated as administrative because it clarifies an SR to avoid misinterpretation.

A08 CTS SR 3.6.3.6 requires performance of leakage rate testing for containment purge valves with resilient seals. The SR contains a Note that requires results from the testing to be evaluated against the acceptance criteria applicable to SR 3.6.1.1, which is the containment leakage rate testing (except for the containment air lock) Surveillance. The ITS contains a similar Surveillance but does not contain the Note. This changes the CTS by deleting the Note that requires evaluating the results from purge valve testing against the criteria applicable to the containment leakage rate testing.

Deleting the CTS Note that addresses evaluating the acceptance criteria from purge valve testing against the containment leakage rate testing acceptance criteria is acceptable, because SR 3.6.1.1 Bases addresses how purge valve testing is evaluated. Specifically SR 3.6.1.1 Bases states, "Failure to meet air lock and purge valve with resilient seal leakage limits specified in LCO 3.6.2 and LCO 3.6.3 does not invalidate the acceptability of these overall leakage determinations unless their contribution to overall Type A, B, and C leakage causes that to exceed limits." Furthermore, the Containment Leakage Rate Testing Program in CTS 5.5.2.15 adequately controls how leakage is evaluated. Stating in a Note how another SR addresses results that are already addressed in the applicable SR Bases and the Section 5.5 Program is redundant and therefore not required. This change is designated as administrative because it deletes redundant information and does not result in a technical change.

A09 CTS SR 3.6.3.7 requires verification that Section D1 and D2 containment isolation valves (CIVs) are OPERABLE in accordance with the Inservice Testing Program and those SRs associated with those Specifications pertaining to each valve or system in which it is installed. The ITS does not contain a similar SR to CTS SR 3.6.3.7. This changes the CTS by deleting the Surveillance Requirement to verify Section D1 and D2 containment isolation valves are OPERABLE.

The purpose of SR 3.6.3.7 is to ensure the requirements of the Inservice Testing Program and the SRs in other Technical Specifications are performed for the Section D1 and D2 valves. The deletion of CTS SR 3.6.3.7 is acceptable because this SR is redundant to the SRs in other Technical Specifications and to the IST Program, which is required by CTS 5.5.2.10. These SRs and ITS 5.5.2.10 will verify OPERABILITY of the Section D CIVs. Therefore, the specific SR to verify Section D valves are OPERABLE is not required. This change is considered administrative because OPERABILITY of the Section D valves will still be required and will still be verified.

DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

A10 CTS SR 3.6.3.8 requires verification that each Section A, B, C, and E automatic containment isolation valve actuates to the isolation position on an actual or simulated actuation signal. ITS SR 3.6.3.8 requires verification each automatic containment valve actuates to the isolation position on an actual or simulated actuation signal. This changes the CTS by deleting specific reference to the type of containment isolation valves (i.e., Section A, B, C, and E) that are being tested.

The purpose of SR 3.6.3.8 is to ensure each automatic containment isolation valve will actuate to its isolation position on an actuation signal. This change is acceptable because only the automatic containment isolation valves will continue to be tested, which is not changed by deleting reference to Section A, B, C, and E valves. This detailed information is not needed in the SR. This change is designated as administrative because it does not result in any technical change to the CTS.

A.11 CTS 3.6.3 Condition A and associated Note states that it is for when one or more penetration flow paths in a flow path with two containment isolation valves have one containment isolation valve inoperable. ITS 3.6.3 Condition A and associated Note include similar words, except that it states it is only applicable to Sections A, B, C, and E valves. This changes the CTS by specifically excluding Section D valves from this Condition.

The purpose of CTS 3.6.3 ACTION A is to provide the actions for when one containment isolation valve in a two valve penetration is inoperable. However, CTS 3.6.3 ACTIONS E and F also provides actions for Section D containment isolation valves, and these Section valves also are in penetrations with two containment isolation valves. The intent of CTS 3.6.3 ACTIONS E and F is to provide the actions for Section D valves, whether one valve in a penetration or two valves in a penetration are inoperable. This was documented in the NRC safety evaluation for Amendments 119 (Unit 2) and 108 (Unit 3), dated May 17, 1995 (ADAMS Accession No. ML021990565). Subsequent to the approval of these Amendments, SCE converted the Technical Specifications to the ISTS format. In the original application to convert to the ITS format, dated 12/30/1993, SCE included in the ISTS Markup of 3.6.3 Condition A this allowance (that the Condition only applied to Sections A, B, C, and E valves). However, in the clean typed ITS that was provided and were subsequently issued to SCE, these words were inadvertently left out. Therefore, to correct this administrative oversight generated when the original ITS was issued, these changes to CTS 3.6.3 Condition A and associated Note are being made. Since this was the original intent of the Condition (to exclude Section D valves), as documented in the NRC safety evaluation for the Amendments 119 and 108, this change is acceptable and is designated as an administrative change. Note that without this change, when a Section D valve becomes inoperable, both ITS 3.6.3 Condition A and either Condition E or F must be entered. Since the Required Actions provide requirements that are basically opposite of each other (Required Action A.1 requires isolating the penetration and Required Actions E.1 and F.1 require maintaining the inoperable valves in the accident position - which is open), a unit shutdown will be required to be initiated in as short as 4 hours (depending upon the exact inoperability) of a Section D valve inoperability.

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DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 4 – Removal of LCO, SR, or other TS requirement to the LCS, UFSAR, ODCM, QAP, CLRT Program, IST Program, ISI Program, or Surveillance Frequency Control Program)* CTS SR 3.6.3.1 requires verification that each 42 inch purge valve is sealed closed except for one purge valve in a penetration flow path while in Condition D of this LCO every 31 days. CTS SR 3.6.3.2 requires verification that each 8 inch purge valve is closed except when the 8 inch purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open every 31 days. CTS SR 3.6.3.3 requires verification that each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls every 31 days. CTS SR 3.6.3.6 requires performance of leakage rate testing for containment purge valves with resilient seals once per 184 days. CTS SR 3.6.3.8 requires verification that each automatic containment isolation valve actuates to the isolation position on an actual or simulated actuation signal every 24 months. ITS SR 3.6.3.1, SR 3.6.3.2, SR 3.6.3.3, SR 3.6.3.6, and SR 3.6.3.8 requires similar Surveillances but specifies the periodic Frequency as "In accordance with the Surveillance Frequency Test Program." This changes the CTS by moving the specified Frequencies for the SRs and the Bases for the Frequencies to the Surveillance Frequency Control Program.

The control of changes to the Surveillance Frequencies will be in accordance with the Surveillance Frequency Control Program. The Program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met. In addition:

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program;

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1; and

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DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

The referenced document, NEI-04-10, Rev. 1, provides a detailed description of the process to be followed when considering changes to a Surveillance Frequency. NEI-04-10, Rev. 1 has been reviewed and approved by the NRC. Therefore, the process will not be discussed further here.

The relocation of the specified Surveillance Frequencies to licensee control is consistent with Regulatory Guides 1.174 and 1.177. Regulatory Guide 1.177 provides guidance for changing Surveillance Frequencies and Completion Times. However, for allowable risk changes associated with Surveillance Frequency extensions, it refers to Regulatory Guide 1.174, which provides quantitative risk acceptance guidelines for changes to core damage frequency (CDF) and large early release frequency (LERF). Regulatory Guide 1.174 provides additional guidelines that have been adapted in the risk-informed methodology for controlling changes to Surveillance Frequencies.

Regulatory Guide 1.174 identifies five key safety principles to be met for all risk-informed applications and to be explicitly addressed in risk-informed plant program change applications.

1. **The proposed change meets the current regulations unless it is explicitly related to a requested exemption or rule change.**

   10 CFR 50.36(c) provides that TS will include items in the following categories:

   "(3) *Surveillance requirements*. Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

   This change proposes to relocate various Frequencies for the performance of the Surveillance Requirements to a licensee-controlled program using an NRC approved methodology for control of the Surveillance Frequencies. The Surveillance Requirements themselves will remain in TS. This is consistent with other NRC approved TS changes in which the Surveillance Frequencies are not under NRC control, such as Surveillances that are performed in accordance with the Inservice Testing Program or the Containment Leakage Rate Testing Program, where the Frequencies vary based on the past performance of the subject components. Thus, this proposed change meets criterion 1 above.

2. **The proposed change is consistent with the defense-in-depth philosophy.**

   As described in Position 2.2.1.1 of Regulatory Guide 1.174, consistency with the defense-in-depth philosophy is maintained if:

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DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

- A reasonable balance is preserved among prevention of core damage, prevention of containment failure, and consequence mitigation;
- Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided;
- System redundancy, independence, and diversity are preserved commensurate with the expected frequency, consequences of challenges to the system, and uncertainties (e.g., no risk outliers);
- Defenses against potential common cause failures are preserved, and the potential for the introduction of new common cause failure mechanisms is assessed;
- Independence of barriers is not degraded;
- Defenses against human errors are preserved; and
- The intent of the General Design Criteria in 10 CFR Part 50, Appendix A is maintained.

These defense-in-depth objectives apply to all risk-informed applications, and for some of the issues involved (e.g., no over-reliance on programmatic activities and defense against human errors), it is fairly straightforward to apply them to this proposed change. The use of the multiple risk metrics of CDF and LERF and controlling the change resulting from the implementation of this initiative would maintain a balance between prevention of core damage, prevention of containment failure, and consequence mitigation. Redundancy, diversity, and independence of safety systems are considered as part of the risk categorization to ensure that these qualities are not adversely affected. Independence of barriers and defense against common cause failures are also considered in the categorization. The improved understanding of the relative importance of plant components to risk resulting from the development of this program promotes an improved overall understanding of how the SSCs contribute to the plant's defense-in-depth.

3. **The proposed change maintains sufficient safety margins.**

   Conformance with this principle is assured since SSC design, operation, testing methods and acceptance criteria specified in the Codes and Standards or alternatives approved for use by the NRC, will continue to be met as described in the plant licensing basis (e.g., UFSAR, or Technical Specifications Bases). Also, the safety analysis acceptance criteria in the licensing basis (e.g., UFSAR, supporting analyses, etc.) are met with the proposed change.

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.**

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DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," will require that changes in core damage frequency or risk are small and consistent with the intent of the Commission's Safety Goal Policy.

5. **The impact of the proposed change should be monitored using performance measurement strategies.**

   NEI 04-10 will require that changes in Surveillance Frequencies be monitored using performance management strategies.

Therefore, the proposed change is consistent with the guidance in Regulatory Guide 1.174.

This change is designated as a less restrictive removal of detail change because a Surveillance Frequency is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L01 *(Category 4 – Relaxation of Required Action)* CTS 3.6.3 Required Actions A.2, C.2, and D.2 require verification that the affected penetration flow path is isolated. ITS 3.6.3 Required Actions A.2, C.2, and D.2 include a Note (Note 2) that allows verification of isolation devices that are locked, sealed, or otherwise secured to be performed using administrative means. In addition, due to this new Note, the original Note in the three Required Actions has been identified as Note 1 and the header "Note" has been changed to "Notes." This changes the CTS by adding a Note to allow isolation devices that are locked, sealed, or otherwise secured to be verified secured by administrative means.

The purpose of CTS 3.6.3 Required Actions A.2, C.2, and D.2 is to provide assurance that containment penetrations are closed when necessary. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. For those isolation devices that are locked, sealed, or otherwise secured, plant procedures control their operation. It is sufficient to assume that the initial establishment of component status (e.g., isolation valves closed) was performed correctly. Subsequent verification is intended to ensure the component has not been inadvertently repositioned. Given that the function of locking, sealing or securing components is to ensure the same avoidance of inadvertent repositioning, the periodic re-verification should only be a verification of the administrative control that ensures that the component remains in the required state. It would be inappropriate to remove the lock, seal, or other means of securing the component solely to perform an active verification of the required state. Therefore, the potential for inadvertent misalignment of these devices after locking, sealing, or securing is low. This change is consistent with NUREG-1432 as revised by TSTF-269. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

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DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

L02 *(Category 3 – Relaxation of Completion Time)* CTS 3.6.3 ACTION C allows 4 hours to isolate the affected penetration flow path when one or more penetration flow paths with one Section A, B, C, or E containment isolation valve is inoperable. The Condition is modified by a Note which states it is only applicable to penetration flow paths with only one containment isolation valve and a closed system. ITS 3.6.3 ACTION C, which applies under the same conditions, will allow 72 hours to isolate the affected penetration when the single containment isolation valve in the penetration is inoperable. This changes the CTS by extending the Completion Time from 4 hours to 72 hours when the inoperable containment isolation valve is in a single valve penetration and a closed system.

The purpose of CTS 3.6.3 ACTION C is to provide a degree of assurance that the penetration flow path with an inoperable containment isolation valve maintains the containment penetration isolation boundary. This change is acceptable because the Completion Time is consistent with safe operation under the specified Condition, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features when relying on an intact closed system, and the low probability of a DBA occurring during the allowed Completion Time. In the case of a single valve penetration and a closed system with an inoperable valve, 72 hours is a reasonable time period considering the relative stability of a closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting containment OPERABILITY in MODES 1, 2, 3, and 4. Also, General Design Criteria (GDC) 57 allows the use of a closed system in combination with a containment isolation valve to provide two containment barriers against the release of radioactive material following an accident. A closed system is subjected to a Type A containment leakage test, is missile protected, and seismic category I piping. A closed system also typically has flow through it during normal operation such that any loss of integrity could be continually observed through leakage detection system within containment and system walkdowns for closed systems outside containment. As such, the use of a closed system is no different from isolating a failed containment isolation valve by use of a single valve as specified in Required Action A.1. This change is consistent with NUREG-1432 as revised by TSTF-30. This change is designated as less restrictive because additional time is allowed to restore the components to within the LCO limits than was allowed in the CTS.

L03 *(Category 4 – Relaxation of Required Action)* CTS 3.6.3 ACTION G is for the condition when any Required Action and associated Completion Time of ACTION A, B, C, D, E, or F is not met. It requires the unit to be in MODE 3 within 6 hours and MODE 5 within 36 hours. ITS 3.6.3 ACTIONS G and H provide the actions to be taken under the same conditions. However, ITS 3.6.3 ACTION G, which is applicable to Conditions A, C, D, E, and F, requires the unit to be in MODE 3 in 6 hours and MODE 4 within 12 hours. Furthermore, the Required Action to be in MODE 4 is modified by a Note that states "LCO 3.0.4.a is not applicable when entering MODE 4." This changes the CTS by eliminating the requirement for the unit to be in MODE 5 within 36 hours and only requires the unit to be in MODE 4 within 12 hours when any Required Action and associated Completion Time of Condition A, C, D, E, or F is not met. ITS 3.6.3 ACTION H, which provides the actions when any Required Action and associated Completion Time of Condition B are not met, remains unchanged.

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DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

The purpose of CTS 3.6.3 ACTION G is to place the unit in a condition where the LCO is not applicable. The proposed change, which is consistent with TSTF-422, allows the plant end state to conclude at MODE 4 within 12 hours versus MODE 5 within 36 hours. This change is based on a topical report, CE NPSD-01186 (approved by NRC on July 17, 2001), which justified a modified end state for some TS allowed outage time requirements of which the containment isolation valves is one. The topical report demonstrates through probabilistic and deterministic safety evaluations that the proposed end states represent a condition of equal or lower risk than the original end states. Preventing plant challenges during shutdown conditions has been, and continues to be, an important aspect of ensuring safe operation of the plant. Past events demonstrate that risk of core damage associated with entry into, and operation in, shutdown cooling is not negligible and should be considered when a plant is required to shutdown. Therefore, the Technical Specifications should encourage plant operation in the steam generator heat removal mode whenever practical, and require reliance on shutdown cooling only when it is a risk beneficial alternative to other actions.

The Note which modifies Required Action G.2 prohibits entry into the end state Mode of Applicability during startup using the provisions of LCO 3.0.4.a. The purpose of this Note is to provide assurance that entry into the end state Mode of Applicability during startup is not made without the appropriate risk assessment. Entry into the end state Mode of Applicability during startup will still be allowed under the provisions of LCO 3.0.4.b. This is acceptable because LCO 3.0.4.b allows entry only after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate. Details of the risk assessment are provided in the Bases for LCO 3.0.4.b.

SONGS will adopt the end states proposed in TSTF-422 and will perform a risk assessment in accordance with 10 CFR 50.65(a)(4) when using the end states regardless of whether maintenance is being performed. The risk assessment will follow Regulatory Guide 1.182, “Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants,” which endorses NUMARC 93-01, “Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants,” Section 11 guidance for implementation of 10 CFR 50.65(a)(4). SONGS will also follow the industry-developed implementation guidance, WCAP-16364-NP, Revision 0, "Implementation Guidance for Risk Informed Modification to Selected Required Action End States at Combustion Engineering NSSS Plants (TSTF-422)," November 2004.

This change is designated as less restrictive because it relaxes the end state from MODE 5 to MODE 4.

L04 *(Category 5 – Deletion of Surveillance Requirement)* CTS SR 3.6.3.8 requires verification that each automatic containment isolation valve actuates to the isolation position. ITS SR 3.6.3.8 requires verification that each automatic containment isolation valve in the flow path "that is not locked, sealed, or otherwise secured in position" actuates to the isolation position. This changes

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DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

the CTS by excluding those valves that are locked, sealed, or otherwise secured in position from the verification.

The purpose of CTS SR 3.6.3.8 is to provide assurance that if an event occurred requiring containment isolation valves to isolate, then those requiring automatic actuation would actuate to their isolated position. This change is acceptable because the deleted Surveillance is not necessary to verify that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a Frequency necessary to provide confidence that the equipment can perform its assumed safety function. Those automatic valves that are locked, sealed, or otherwise secured in position are not required to actuate on a containment isolation signal in order to perform their safety function because they are already in the required position. Testing such valves would not provide any additional assurance of OPERABILITY. Containment isolation valves that are required to actuate will continue to be tested. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

2

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves (Atmospheric and Dual)

2

LCO 3.6.3

LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

Applicability

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS Notes

ACTIONS

----------NOTES----------

1. Penetration flow paths [except for [42] inch purge valve penetration flow paths] may be unisolated intermittently under administrative controls.

3

2. Separate Condition entry is allowed for each penetration flow path.

3. Enter applicable Conditions and Required Actions for system(s) made inoperable by containment isolation valves.

4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. ----------NOTE---------- Only applicable to penetration flow paths with two Section A, B, C, or E isolation valves. [containment sump supply valves to the ECCS and containment spray pumps]. ---------- One or more penetration flow paths with one Section A, B, C, or E containment isolation valve inoperable for reasons other than Condition D.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours

6 4

6 4

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A	A.2 ----------NOTES---------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
[B. ----------NOTE---------- Only applicable to penetration flow paths with two [or more] containment isolation valves. ---------- One or more penetration flow paths with one containment isolation valve inoperable [for reasons other than Condition[s] A, E, [and F]].	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	[7 days]

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ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.2 ----------NOTES---------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment]
ACTION B C. ----------NOTE---------- Only applicable to penetration flow paths with two [or more] containment isolation valves. ---------- One or more penetration flow paths with two [or more] containment isolation valves inoperable [for reasons other than Condition[s] E [and F]].	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION C D. ----------NOTE---------- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. ---------- One or more penetration flow paths with one containment isolation valve inoperable.	D.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND	72 hours for those penetrations that do not met the 7 day criteria AND 7 days for those penetrations that meet the 7 day criteria
	D.2 ----------NOTES---------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days
E. [One or more secondary containment bypass leakage [or purge valve leakage] not within limit.	E.1 Restore leakage within limit.	4 hours for secondary containment bypass leakage AND 24 hours for purge valve leakage]

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION D F. One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.	F.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve with resilient seals, closed manual valve with resilient seals, or blind flange.	24 hours
	AND	
	F.2 ----------NOTES---------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment
	AND	AND
		Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION D INSERT 1	F.3 Perform SR 3.6.3.6 for the resilient seal purge valves closed to comply with Required Action F.1.	Once per [ ] days]
ACTION G G. Required Action and associated Completion Time not met. of Condition A, C, D, E, or F INSERT 2	G.1 Be in MODE 3. AND G.2 Be in MODE 5.	6 hours 36 hours

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 4.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.1	SR 3.6.3.1 [Verify each [42] inch purge valve is sealed closed except for one purge valve in a penetration flow path while in Condition F of this LCO.	31 days] INSERT 3
SR 3.6.3.2	SR 3.6.3.2 Verify each [8] inch purge valve is closed except when the [8] inch purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	31 days INSERT 3
SR 3.6.3.3	SR 3.6.3.3 ----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ---------- Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	31 days INSERT 3

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U2/U3 CTS

6 **INSERT 1**

ACTION E	E. One or more Section D.1 containment isolation valves inoperable.	E.1	Secure the inoperable valve(s) in its ESFAS actuated position.	In accordance with the applicable LCO pertaining to the ESF system in which it is installed
		AND		
		E.2	Restore the inoperable valve(s) to OPERABLE status.	Prior to entering MODE 4 from MODE 5 if MODE 5 entered within 30 days, otherwise within 30 days
ACTION F	F. One or more Section D.2 containment isolation valves inoperable.	F.1	Secure the inoperable valve(s) in its ESFAS actuated position.	In accordance with the applicable LCO pertaining to the ESF system in which it is installed
		AND		
		F.2	Restore the inoperable valve(s) to OPERABLE status.	Prior to entering MODE 4 from MODE 5

9 **INSERT 2**

ACTION G	H. Required Action and Associated Completion Time of Condition B not met.	H.1	Be in MODE 3.	6 hours
		AND		
		H.2	Be in MODE 5.	36 hours

Insert Page 3.6.3-6a

TSTF-425-A

INSERT 3

In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE		FREQUENCY
SR 3.6.3.4	SR 3.6.3.4	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ----------	
		Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days
SR 3.6.3.5	SR 3.6.3.5	Verify the isolation time of each automatic power operated containment isolation valve is within limits.	[In accordance with the Inservice Testing Program or 92 days]
SR 3.6.3.6	SR 3.6.3.6	Perform leakage rate testing for containment purge valves with resilient seals.	184 days INSERT 3 AND Within 92 days after opening the valve
	SR 3.6.3.7 Not used.		
SR 3.6.3.8	SR 3.6.3.7	Verify each automatic containment isolation valve that is not locked, sealed, or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	[18] months INSERT 3
	SR 3.6.3.8	[Verify each [ ] inch containment purge valve is blocked to restrict the valve from opening > [50]%.	[18] months]
	SR 3.6.3.9	[Verify the combined leakage rate for all secondary containment bypass leakage paths is ≤ [L_a] when pressurized to ≥ [psig].	In accordance with the Containment Leakage Rate Testing Program]

TSTF-425-A

INSERT 3

In accordance with the Surveillance Frequency Control Program

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

1. Changes are made (additions, deletions, and/or changes) to the ISTS which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.3 include the parenthetical expression "(Atmospheric and Dual)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment.

3. The ISTS contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

4. ISTS 3.6.3 ACTION B and part of the ISTS 3.6.3 ACTION D (ITS 3.6.3 ACTION C) Completion Time are being deleted. Condition A is being modified to cover all penetration flow paths with two isolation valves, except for those covered by Condition D. In addition, due to the deletion of ACTION B, the remaining ACTIONS have been renumbered. These changes are based upon not adopting TSTF-373, which the NRC is not allowing at this time. Therefore, the ACTIONS have been changed back to what was essentially there prior to TSTF-373, and is consistent with the CTS ACTIONS.

5. SONGS has an Atmospheric type Containment; therefore ISTS ACTIONS and SRs that are applicable to a Dual Containment plant (i.e., secondary containment bypass leakage requirements) are being deleted. Due to these deletions, subsequent ACTIONS and SRs have been renumbered.

6. Two ACTIONS, specific to SONGS, are being added. ITS 3.6.3 ACTIONS E and F are specific for Sections D.1 and D.2 valves whose Required Actions and associated Completion Times are different than those that are currently in the ISTS and those for the other types of SONGS containment isolation valves. The CTS 3.6.3 ACTIONS E and F ACTIONS are different based on results of specific risk evaluations for these valves. These ACTIONS were approved by the NRC as part of Amendments 119 (Unit 2) and 108 (Unit 3), dated May 17, 1995 (ADAMS Accession No. ML021990565). In addition, due to these changes, the Conditions of ACTIONS A, B, and C are also modified to only be applicable to the other Sections valves (Sections A, B, C, and E). These changes are also consistent with Amendments 119 and 108.

7. ISTS SR 3.6.3.8 is not being included in the SONGS ITS. The ISTS SR ensures the 42 inch containment purge valves are blocked to restrict opening to ensure that the valves can close under DBA conditions within the times assumed in the analyses. This SR is not needed at SONGS. The SONGS normal (42 inch) purge valves are designed for purging the containment atmosphere to the unit stack while introducing filtered makeup from the outside to provide adequate ventilation for personnel comfort when the unit is shut down during refueling operations and maintenance. However, because of their large size, the normal purge valves are not qualified for

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JUSTIFICATION FOR DEVIATIONS
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

automatic closure from their open position under DBA conditions. Therefore, normal purge valves are normally maintained sealed closed in MODES 1, 2, 3, and 4 in accordance with CTS and ITS SR 3.6.3.1 to ensure leak tightness.

8. The SR number has been changed to be consistent with the SR number in the SONGS CTS. SCE has decided not to renumber the CTS to be consistent with the ISTS because by doing so would result in the unnecessary administrative burden of changing TS numbers in plant procedures. For this reason, "Not used" SR numbers are also maintained in the ITS.

9. TSTF-422 changes ISTS 3.6.3 Required Action G.2 from the requirement to be in MODE 5 within 36 hours to only require being in MODE 4 within 12 hours. It has also been changed with the addition of the Note restricting the use of LCO 3.0.4.a when entering MODE 4. This TSTF is based on a topical report, CE NPSD-01186, which was approved by the NRC on July 17, 2001. However, neither the topical report nor the NRC Safety Evaluation approved going to MODE 4 when both containment isolation valves (CIVs) in a two CIV penetration are inoperable and the associated penetration is not isolated. The topical report and NRC Safety Evaluation only allowed this for a single CIV being inoperable and the associated penetration not isolated. Therefore, ISTS 3.6.3 Condition G has been modified to only be applicable to Conditions A, C, D, E, and F, and a new ACTION H has been added, which is applicable to the two CIV Condition (ITS 3.6.3 Condition B), which requires the unit to go to MODE 5 in 36 hours versus MODE 4 in 12 hours.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Bases Justification for Deviations (JFDs)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.3 Containment Isolation Valves (Atmospheric and Dual) 3

BASES

BACKGROUND

The containment isolation valves form part of the containment pressure boundary and provide a means for fluid penetrations not serving accident consequence limiting systems to be provided with two isolation barriers that are closed on an automatic isolation signal. These isolation devices are either passive or active (automatic). Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), blind flanges, pipe caps, and closed systems are considered passive devices. Check valves, or other automatic valves designed to close without operator action following an accident, are considered active devices. Two barriers in series are provided for each penetration so that no single credible failure or malfunction of an active component can result in a loss of isolation or leakage that exceeds limits assumed in the safety analysis. One of these barriers may be a closed system. 1

Containment isolation occurs upon receipt of a high containment pressure signal or a low Reactor Coolant System (RCS) pressure signal. The containment isolation signal closes automatic containment isolation valves in fluid penetrations not required for operation of Engineered Safety Feature systems in order to prevent leakage of radioactive material. Upon actuation of safety injection, automatic containment isolation valves also isolate systems not required for containment or RCS heat removal. Other penetrations are isolated by the use of valves in the closed position or blind flanges. As a result, the containment isolation valves (and blind flanges) help ensure that the containment atmosphere will be isolated in the event of a release of radioactive material to containment atmosphere from the RCS following a Design Basis Accident (DBA). 1

The OPERABILITY requirements for containment isolation valves help ensure that containment is isolated within the time limits assumed in the safety analysis. Therefore, the OPERABILITY requirements provide assurance that the containment function assumed in the accident analysis will be maintained.

The purge valves were designed for intermittent operation, providing a means of removing airborne radioactivity caused by minor RCS leakage prior to personnel entry into containment. There are two sets of purge valves: normal purge and exhaust valves and minipurge and exhaust valves. The normal and minipurge supply and exhaust lines are each supplied with inside and outside containment isolation valves but share common supply and exhaust penetration lines.

BASES

BACKGROUND (continued)

The normal purge valves are designed for purging the containment atmosphere to the unit stack while introducing filtered makeup from the outside to provide adequate ventilation for personnel comfort when the unit is shut down during refueling operations and maintenance. Motor operated isolation valves are provided inside the containment, and air operated isolation valves are provided outside the containment. The valves are operated manually from the control room. The valves will close automatically upon receipt of a containment purge isolation signal. The air operated valves fail closed upon a loss of air. Because of their large size, the normal purge valves in some units are not qualified for automatic closure from their open position under DBA conditions. Therefore, the normal purge valves are normally maintained closed in MODES 1, 2, 3, and 4 to ensure the containment boundary is maintained. 1

Open normal purge valves, or a failure of the minipurge valves to close, following an accident that releases contamination to the containment atmosphere would cause a significant increase in the containment leakage rate.

APPLICABLE SAFETY ANALYSES

The containment isolation valve LCO was derived from the assumptions related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during major accidents. As part of the containment boundary, containment isolation valve OPERABILITY supports leak tightness of the containment. Therefore, the safety analysis of any event requiring isolation of containment is applicable to this LCO.

The DBAs that result in a release of radioactive material within containment are a loss of coolant accident (LOCA), a main steam line break, and a control element assembly ejection accident. In the analysis for each of these accidents, it is assumed that containment isolation valves are either closed or function to close within the required isolation time following event initiation. This ensures that potential paths to the environment through containment isolation valves (including containment purge valves) are minimized. The safety analysis assumes that the normal purge valves are closed at event initiation.

The DBA analysis assumes that, within 60 seconds after the accident, isolation of the containment is complete and leakage terminated except for the design leakage rate, L_a. The containment isolation total response time of 60 seconds includes signal delay, diesel generator startup (for loss of offsite power), and containment isolation valve stroke times.

BASES

APPLICABLE SAFETY ANALYSES (continued)

The single failure criterion required to be imposed in the conduct of unit safety analyses was considered in the original design of the containment purge valves. Two valves in series on each purge line provide assurance that both the supply and exhaust lines could be isolated even if a single failure occurred. The inboard and outboard isolation valves on each line are provided with diverse power sources, motor operated and pneumatically operated spring closed, respectively. This arrangement was designed to preclude common mode failures from disabling both valves on a purge line.

42 inch

The purge valves may be unable to close in the environment following a LOCA. Therefore, each of the purge valves is required to remain sealed closed during MODES 1, 2, 3, and 4. In this case, the single failure criterion remains applicable to the containment purge valves due to failure in the control circuit associated with each valve. Again, the purge system valve design precludes a single failure from compromising the containment boundary as long as the system is operated in accordance with the subject LCO. The minipurge valves are capable of closing under accident conditions. Therefore, they are allowed to be open for limited periods during power operation. 1

The containment isolation valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Containment isolation valves form a part of the containment boundary. The containment isolation valve safety function is related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during a DBA.

The automatic power operated isolation valves are required to have isolation times within limits and to actuate on an automatic isolation signal. The purge valves must be maintained sealed closed [or have blocks installed to prevent full opening]. [Blocked purge valves also actuate on an automatic signal.] The valves covered by this LCO are listed with their associated stroke times in the FSAR (Ref. 1).

42 inch normal

1 5 1

U

The normally closed isolation valves are considered OPERABLE when manual valves are closed, automatic valves are de-activated and secured in their closed position, blind flanges are in place, and closed systems are intact. These passive isolation valves or devices are those listed in Reference 2. 1

1

BASES

LCO (continued)

Purge valves with resilient seals [and secondary containment bypass valves] must meet additional leakage rate requirements. The other containment isolation valve leakage rates are addressed by LCO 3.6.1, "Containment," as Type C testing. 5

This LCO provides assurance that the containment isolation valves and purge valves will perform their designed safety functions to minimize the loss of reactor coolant inventory and establish the containment boundary during accidents.

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the containment isolation valves are not required to be OPERABLE in MODE 5. The requirements for containment isolation valves during MODE 6 are addressed in LCO 3.9.3, "Containment Penetrations."

ACTIONS

The ACTIONS are modified by a Note allowing penetration flow paths, except for [42] inch purge valve penetration flow paths, to be unisolated intermittently under administrative controls. These administrative controls consist of stationing a dedicated operator at the valve controls, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for containment isolation is indicated. Due to the size of the containment purge line penetration and the fact that those penetrations exhaust directly from the containment atmosphere to the environment, these valves may not be opened under administrative controls. 2

A second Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable containment isolation valve. Complying with the Required Actions may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are further modified by a third Note, which ensures that appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

BASES

ACTIONS (continued)

A fourth Note has been added that requires entry into the applicable Conditions and Required Actions of LCO 3.6.1 when leakage results in exceeding the overall containment leakage limit.

INSERT 1 5

A.1 and A.2

Section A, B, C, or E

except for purge valve leakage not within limit

In the event one containment isolation valve in one or more penetration flow paths is inoperable, the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For penetrations isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required Action A.1 must be completed within the 4 hour Completion Time. The 4 hour Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4 (Refs. 4 and 5). 5 5 1 2

For affected penetration flow paths that cannot be restored to OPERABLE status within the 4 hour Completion Time and that have been isolated in accordance with Required Action A.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This Required Action does not require any testing or device manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment and capable of being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility. 6

5 **INSERT 1**

In addition, the ACTIONS delineate requirements for Sections A, B, C, D, and E containment isolation valves. The specific listing of the Section A, B, C, D, and E valves is in the Licensee Controlled Specifications (LCS). The valves are identified as: Section A valves are automatic containment isolation valves; Section B valves are containment purge valves; Section C valves are manual valves; Section D valves are either safety injection or other valves; and Section E valves are other valves.

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3

BASES

ACTIONS (continued)

those penetration flow paths with two Section A, B, C, or E containment isolation valves

Condition A has been modified by a Note indicating that this Condition is only applicable to [the containment sump supply valves to the ECCS and containment spray pumps].

5

----------REVIEWER'S NOTE----------
Condition A is only applicable to the containment isolation valves that do not meet the conditions to extend the Completion Time to 7 days.

4

Required Action A.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these devices, once they have been verified to be in the proper position, is small.

B.1 and B.2

----------REVIEWER'S NOTE----------
Adoption of the 7 day Completion Time is contingent on the conditions identified in Reference 4.

1. Individual licensees requesting CIV Completion Time relaxations should state in their plant-specific application that they have verified that the Joint Applications Report (JAR) results apply to their plant. Licensees should verify that the relaxed Completion Times will only apply to penetrations analyzed to meet the risk guidelines of Regulatory Guide 1.177 and fall within the 14 containment penetration configurations considered in the JAR. Any other containment penetration configurations not analyzed in the JAR must be supported by a plant-specific analysis. Licensee submittals must retain the current Completion Times for the three configurations that were not analyzed in the JAR: containment sump supply valves to the ECCS and containment spray systems pumps, valves associated with the main feedwater system, and main steam isolation valves.

5

1

BASES

ACTIONS (continued)

2. Licensees should provide sufficient quantitative or qualitative substantiation to demonstrate that external events will not affect the results of the analysis supporting the extended Completion Times.

3. Licensees should state that they have verified acceptable PRA quality as described in Regulatory Guide 1.177.

4. Licensees should require verification of the operability of the remaining CIV(s) in a penetration flow path before entering the extended Completion Time for corrective maintenance. The JAR assumes that the penetrations remain physically intact in MODES in which these valves are to be operable during corrective maintenance. Licensees should describe in their plant specific application how the affected penetration will remain physically intact, or state that the penetration will be isolated so as to not permit a release to the outside environment.

5. The licensee should consider the additive nature of multiple failed CIVs, and the possibility of entering multiple AOTs and verify that these situations will result in risks consistent with the incremental conditional core damage probability (ICCDP) and incremental large early release probability (ICLERP) guidelines so that defense-in-depth for the safety systems will be maintained. 5

[B.1 and B.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable, [except for Condition A and for purge valve leakage and shield building bypass leakage not within limit], the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For penetrations isolated in accordance with Required Action B.1, the device used to isolate the penetration should be the closest available one to containment. Required Action B.1 must be completed within the [7 day] Completion Time. The [7 day] Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4 (References 3 and 4).

BASES

ACTIONS (continued)

For affected penetration flow paths that cannot be restored to OPERABLE status within the [7 day] Completion Time and that have been isolated in accordance with Required Action B.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This Required Action does not require any testing or device manipulation. Rather, it involves verification that those isolation devices outside containment and capable of being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility. 5

Condition B has been modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two [or more] containment isolation valves. For penetration flow paths with only one containment isolation valve and a closed system, Condition D provides appropriate actions.

Required Action B.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these devices, once they have been verified to be in the proper position, is small.]

BASES

ACTIONS (continued)

B.1

With two [or more] containment isolation valves in one or more penetration flow paths inoperable, [except for purge valve leakage and shield building bypass leakage not within limit], the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1. In the event the affected penetration is isolated in accordance with Required Action B.1, the affected penetration must be verified to be isolated on a periodic basis per Required Action A.2, which remains in effect. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative controls and the probability of their misalignment is low.

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two [or more] containment isolation valves. Condition A of this LCO addresses the condition of one containment isolation valve inoperable in this type of penetration flow path.

C.1 and C.2

With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration. Required Action C.1 must be completed within the [72] hour Completion Time for those penetrations that do not meet the 7 day Completion Time criteria and [7 days] for penetrations that do meet the 7 day Completion Time criteria. The specified time period is reasonable, considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4. In the event the affected

BASES

ACTIONS (continued)

penetration is isolated in accordance with Required Action D.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to assure leak tightness of containment and that containment penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying that each affected penetration flow path is isolated is appropriate considering the valves are operated under administrative controls and the probability of their misalignment is low. 5

Condition D is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system. The closed system must meet the requirements of Reference 4. This Note is necessary since this Condition is written to specifically address those penetration flow paths in a closed system. 5 1

Required Action D.2 is modified by two Notes. Note 1 applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is small.

[E.1

With the secondary containment bypass leakage rate (SR 3.6.3.9) [or purge valve leakage rate (SR 3.6.3.6)] not within limit, the assumptions of the safety analysis are not met. Therefore, the leakage must be restored to within limit. Restoration can be accomplished by isolating the penetration(s) that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. When a penetration is isolated, the leakage rate for the isolated penetration is assumed to be the actual pathway leakage through the isolation device. If two isolation devices are used to isolate the penetration, the leakage rate is assumed to be the lesser actual pathway leakage of the two devices. The 4 hour Completion Time for secondary 5

BASES

ACTIONS (continued)

containment bypass leakage is reasonable considering the time required to restore the leakage by isolating the penetration(s) and the relative importance of secondary containment bypass leakage to the overall containment function. [The 24 hour Completion Time for purge valve leakage is acceptable considering the purge valves remain closed so that a gross breach of containment does not exist.]

----------REVIEWER'S NOTE----------
[The bracketed options provided in ACTION E reflect options in plant design and options in adopting the associated leakage rate Surveillances.

The options (in both ACTION E and ACTION F for purge valve leakage, are based primarily on the design - if leakage rates can be measured separately for each purge valve, ACTION F is intended to apply. This would be required to be able to implement Required Action F.3. Should the design allow only for leak testing both purge valves simultaneously, then the Completion Time for ACTION E should include the "24 hours for purge valve leakage" and ACTION F should be eliminated.]]

[F.1, F.2, and F.3

In the event one or more containment purge valves in one or more penetration flow paths are not within the purge valve leakage limits, purge valve leakage must be restored to within limits, or the affected penetration must be isolated. The method of isolation must be by the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a [closed and de-activated automatic valve with resilient seals, a closed manual valve with resilient seals, or a blind flange]. A purge valve with resilient seals utilized to satisfy Required Action F.1 must have been demonstrated to meet the leakage requirements of SR 3.6.3.6. The specified Completion Time is reasonable, considering that one containment purge valve remains closed so that a gross breach of containment does not exist.

In accordance with Required Action F.2, this penetration flow path must be verified to be isolated on a periodic basis. The periodic verification is necessary to ensure that containment penetrations required to be isolated following an accident, which are no longer capable of being automatically isolated, will be in the isolation position should an event occur. This Required Action does not require any testing or valve manipulation. Rather, it involves verification that those isolation devices outside

BASES

ACTIONS (continued)

containment capable of being mispositioned are in the correct position. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

For the containment purge valve with resilient seal that is isolated in accordance with Required Action F.1, SR 3.6.3.6 must be performed at least once every [92] days. This assures that degradation of the resilient seal is detected and confirms that the leakage rate of the containment purge valve does not increase during the time the penetration is isolated. The normal Frequency for SR 3.6.3.6, 184 days, is based on an NRC initiative, Generic Issue B-20 (Ref. 6). Since more reliance is placed on a single valve while in this Condition, it is prudent to perform the SR more often. Therefore, a Frequency of once per [92] days was chosen and has been shown to be acceptable based on operating experience.

Since this Frequency can be changed via the allowances specified in the Surveillance Frequency Control Program, it is prudent to ensure this Required Action is performed at least every 184 days, even if the Surveillance Frequency Control Program changes the normal Frequency for SR 3.6.3.6 in the future. Therefore, the Required Action D.3 Completion Time of once per 184 days is specified.

Required Action F.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned.

INSERT 2

G.1 and G.2

If the Required Actions and associated Completion Times of Condition A, C, D, E, or F 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 5 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.

INSERT 3

INSERT 4

5 **INSERT 2**

E.1, E.2, F.1, and F.2

These Actions require certain containment isolation valves to be secured in their ESFAS actuated position and restore the inoperable valve to OPERABLE status. Section D.2 valves HV9200, HV0352A, HV0352B, HV0352C, and HV0352D receive no ESFAS signal. The ESFAS actuated position for these normally locked open valves is understood to be open.

The Completion Time for Sections D.1 and D.2 valves is based on restoring the ESF System to OPERABLE status. Therefore, the appropriate Completion Time is based on the specific ESF System requirements.

The second Completion Times for Sections D.1 and D.2 valves are different based on the results of specific risk evaluations for valves that may be secured open. The Second Completion Times are for restoring complete (open and close) OPERABILITY of the valves.

Sections D.1 and D.2 valves that are closed and de-activated are OPERABLE for fulfilling their containment isolation function. Such valves are inoperable for purposes of fulfilling the safety function of their ESF system, and the applicable LCO must be entered for the affected system.

TSTF-422-A **INSERT 3**

Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 4). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state.

5 **INSERT 4**

H.1 and H.2

If the Required Actions and associated Completion Times of Condition B 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 5 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.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1 2

Each [42] inch containment purge valve is required to be verified sealed closed at 31 day intervals. This Surveillance is designed to ensure that a gross breach of containment is not caused by an inadvertent or spurious opening of a containment purge valve. Detailed analysis of the purge valves failed to conclusively demonstrate their ability to close during a LOCA in time to limit offsite doses. Therefore, these valves are required to be in the sealed closed position during MODES 1, 2, 3, and 4. A containment purge valve that is sealed closed must have motive power to the valve operator removed. This can be accomplished by de-energizing the source of electric power or by removing the air supply to the valve operator. In this application, the term "sealed" has no connotation of leak tightness. The Frequency is a result of an NRC initiative, Generic Issue B-24 (Ref. 7), related to containment purge valve use during unit operations. This SR is not required to be met while in Condition E of this LCO. This is reasonable since the penetration flow path would be isolated.

TSTF-425-A

42 inch

INSERT 5

TSTF-425-A

5

D

2

SR 3.6.3.2

This SR ensures that the minipurge valves are closed as required or, if open, open for an allowable reason. If a purge valve is open in violation of this SR, the valve is considered inoperable. If the inoperable valve is not otherwise known to have excessive leakage when closed, it is not considered to have leakage outside of limits. The SR is not required to be met when the purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open. The minipurge valves are capable of closing in the environment following a LOCA. Therefore, these valves are allowed to be open for limited periods of time. The 31 day Frequency is consistent with other containment isolation valve requirements discussed in SR 3.6.3.3.

INSERT 5

TSTF-425-A

SR 3.6.3.3

This SR requires verification that each containment isolation manual valve and blind flange located outside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside the containment boundary is within design limits. This SR does not require any testing or valve manipulation. Rather, it involves verification that those containment isolation valves outside containment and capable of being mispositioned are in the correct

TSTF-425-A

INSERT 5

The Frequency is controlled under the Surveillance Frequency Control Program. 7

---------- Reviewers Note ----------
Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement. 4

BASES

SURVEILLANCE REQUIREMENTS (continued)

position. Since verification of valve position for containment isolation valves outside containment is relatively easy, the 31 day Frequency is based on engineering judgment and was chosen to provide added assurance of the correct positions. Containment isolation valves that are open under administrative controls are not required to meet the SR during the time the valves are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

INSERT 5

TSTF-425-A

The Note applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, 3, 4 and for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in the proper position, is small.

SR 3.6.3.4

This SR requires verification that each containment isolation manual valve and blind flange located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside the containment boundary is within design limits. For containment isolation valves inside containment, the Frequency of "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is appropriate, since these containment isolation valves are operated under administrative controls and the probability of their misalignment is low. Containment isolation valves that are open under administrative controls are not required to meet the SR during the time that they are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

The Note allows valves and blind flanges located in high radiation areas to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, and 3 , and 4 for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in their proper position, is small.

8

TSTF-425-A

INSERT 5

The Frequency is controlled under the Surveillance Frequency Control Program.

7

---------- Reviewers Note ----------
Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.3.5

Verifying that the isolation time of each automatic power operated containment isolation valve is within limits is required to demonstrate OPERABILITY. The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analysis. [The isolation time and Frequency of this SR are in accordance with the Inservice Testing Program or 92 days.] 5

SR 3.6.3.6

For containment purge valves with resilient seals, additional leakage rate testing beyond the test requirements of 10 CFR 50, Appendix J, Option [A][B], (Ref. 8), is required to ensure OPERABILITY. Operating experience has demonstrated that this type of seal has the potential to degrade in a shorter time period than do other seal types. Based on this observation and the importance of maintaining this penetration leak tight (due to the direct path between containment and the environment), a Frequency of 184 days was established as part of the NRC resolution of Generic Issue B-20, "Containment Leakage Due to Seal Deterioration" (Ref. 6).

5 2 TSTF-422-A

INSERT 5 TSTF-425-A

Additionally, this SR must be performed within 92 days after opening the valve. The 92 day Frequency was chosen recognizing that cycling the valve could introduce additional seal degradation (beyond that occurring to a valve that has not been opened). Thus, decreasing the interval (from 184 days) is a prudent measure after a valve has been opened. TSTF-425-A

SR 3.6.3.7 Not used. 5

SR 3.6.3.[7] 8 5

Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This SR ensures each automatic containment isolation valve will actuate to its isolation position on a containment isolation actuation signal. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The [18] month Frequency was developed considering it is prudent that this SR be performed only during a unit outage, since isolation of penetrations would eliminate cooling water flow and disrupt normal operation of many critical components. Operating experience has shown that these components usually pass this SR when performed on the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

INSERT 5 TSTF-425-A

TSTF-425-A

INSERT 5

The Frequency is controlled under the Surveillance Frequency Control Program. 7

---------- Reviewers Note ----------
Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement. 4

BASES

SURVEILLANCE REQUIREMENTS (continued)

[SR 3.6.3.8

----------REVIEWER'S NOTE----------
This SR is only required for those units with resilient seal purge valves allowed to be open during [MODE 1, 2, 3, or 4] and having blocking devices on the valves that are not permanently installed.

Verifying that each [42] inch containment purge valve is blocked to restrict opening to ≤ [50]% is required to ensure that the valves can close under DBA conditions within the times assumed in the analyses of References 1 and 2. If a LOCA occurs, the purge valves must close to maintain containment leakage within the values assumed in the accident analysis. At other times when purge valves are required to be capable of closing (e.g., during movement of [recently] irradiated fuel assemblies), pressurization concerns are not present, thus the purge valves can be fully open. The [18] month Frequency is appropriate because the blocking devices are typically removed only during a refueling outage.] 5

[SR 3.6.3.9

This SR ensures that the combined leakage rate of all secondary containment bypass leakage paths is less than or equal to the specified leakage rate. This provides assurance that the assumptions in the safety analysis are met. The leakage rate of each bypass leakage path is assumed to be the maximum pathway leakage (leakage through the worse of the two isolation valves) unless the penetration is isolated by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. In this case, the leakage rate of the isolated bypass leakage path is assumed to be the actual pathway leakage through the isolation device. If both isolation valves in the penetration are closed, the actual leakage rate is the lesser leakage rate of the two valves. The Frequency is required by the Containment Leakage Rate Testing Program. This SR simply imposes additional acceptance criteria.

[Bypass leakage is considered part of L_a. unless specifically exempted.]]

BASES

REFERENCES

1. FSAR, Section [ ].

2. FSAR, Section [ ].

3. Combustion Engineering Owners Group (CEOG) Joint Applications Report (JAR) CE-NPSD-1168, Joint Applications Report for Containment Isolation Valve AOT Extension, dated June 1999.

4. NRC Safety Evaluation for CEOG Joint Applications Report CE-NPSD-1168, "JAR for CIV AOT Extension," dated June 26, 2000.

5. Standard Review Plan 6.2.4.

6. Generic Issue B-20.

7. Generic Issue B-24.

8. 10 CFR 50, Appendix J, Option [A][B].

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.3 BASES, CONTAINMENT ISOLATION VALVES

1. Changes are made (additions, deletions, and/or changes) to the Improved Standard Technical Specification (ISTS) Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The ISTS Bases contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

3. The headings for ISTS 3.6.3 Bases include the parenthetical expression "(Atmospheric and Dual)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment.

4. This "Reviewers Note" is being deleted. The Reviewers Note is for the NRC reviewer during the NRC review and will not be part of the plant specific SONGS ITS.

5. Changes are made to the Bases to be consistent with changes made to the actual Specification.

6. The phrase, "through a system walkdown," is being deleted from the ITS 3.6.3 Bases. This phrase should have been deleted in the ISTS via TSTF-440 (approved by the NRC on October 11, 2002), but was inadvertently overlooked. TSTF-440 applied to SRs and Required Actions which required periodic verification of the alignment or isolation of a system through a system walkdown. This level of detail in the Bases is not required because it eliminates the flexibility of using other methods of verification (i.e., use of remote valve position indication) which are adequate to meet the intent of the requirement without unintended consequences, such as increased personnel dose.

7. The Bases words changed by TSTF-425 have been modified to state "The Frequency is controlled under the Surveillance Frequency Control Program." The Surveillance Frequency Control Program provides the details for how to change the Frequencies, thus the TSTF-425 words concerning operating experience, equipment reliability, and plant risk is not always true for each of the Frequencies.

8. The wording concerning the Note to SR 3.6.3.4 has been changed to include MODE 4, consistent with similar wording in ISTS SR 3.6.3.3 Bases.

9. The Bases of ISTS 3.6.3 Required Action F.3 (ITS 3.6.3 Required Action D.3) references the Frequency of SR 3.6.3.6 as 184 days. It uses this reference to justify the actual Completion Time of the Required Action. However, TSTF-425 relocated the routine Frequencies for SRs to the Surveillance Frequency Control Program. Therefore, the actual Frequencies are not specified in the Technical Specifications. This change was inadvertently not included as part of the TSTF-425 Bases changes. Therefore, the Bases for this Required Action has been modified to be consistent with the Surveillance Frequency Control Program changes.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

There are no specific No Significant Hazards Considerations for this Specification.

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ATTACHMENT 4

ITS 3.6.4, CONTAINMENT PRESSURE

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

3.6 CONTAINMENT SYSTEMS

3.6.4 Containment Pressure

LCO 3.6.4 LCO 3.6.4 Containment pressure shall be ≥ -0.3 psig and ≤ +1.5 psig.

Applicability APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. Containment pressure not within limits.	A.1 Restore containment pressure to within limits.	1 hour
ACTION B B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE ~~5~~ 4.	6 hours ~~36~~ 12 hours

L01

NOTE
LCO 3.0.4.a is not applicable when entering MODE4.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.4.1 SR 3.6.4.1 Verify containment pressure is within limits.	~~12 hours~~ In accordance with the Surveillance Frequency Control Program

LA01

ITS

A01

3.6 CONTAINMENT SYSTEMS

3.6.4 Containment Pressure

LCO 3.6.4 LCO 3.6.4 Containment pressure shall be ≥ -0.3 psig and ≤ +1.5 psig.

Applicability APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. Containment pressure not within limits.	A.1 Restore containment pressure to within limits.	1 hour
ACTION B B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE ~~3~~ 4.	6 hours ~~36~~ 12 hours

L01

NOTE
LCO 3.0.4.a is not applicable when entering MODE4.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.4.1 SR 3.6.4.1 Verify containment pressure is within limits.	~~12 hours~~ In accordance with the Surveillance Frequency Control Program

LA01

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DISCUSSION OF CHANGES
ITS 3.6.4, CONTAINMENT PRESSURE

ADMINISTRATIVE CHANGES

A01 In the conversion of the San Onofre Nuclear Generating Station (SONGS) Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1432, Rev. 3.0, "Standard Technical Specifications Combustion Engineering Plants" (ISTS) and additional approved Technical Specification Task Force (TSTF) travelers included in this submittal.

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 4 – Removal of LCO, SR, or other TS requirement to the LCS, UFSAR, ODCM, QAP, CLRT Program, IST Program, ISI Program, or Surveillance Frequency Control Program)* CTS SR 3.6.4.1 requires verification that containment pressure is within limits every 12 hours. ITS SR 3.6.4.1 requires a similar Surveillance and specifies the periodic Frequency as "In accordance with the Surveillance Frequency Test Program." This changes the CTS by moving the specified Frequency for the SR and the Bases for the Frequency to the Surveillance Frequency Control Program.

The control of changes to the Surveillance Frequencies will be in accordance with the Surveillance Frequency Control Program. The Program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met. In addition:

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program;

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1; and

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DISCUSSION OF CHANGES
ITS 3.6.4, CONTAINMENT PRESSURE

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

The referenced document, NEI-04-10, Rev. 1, provides a detailed description of the process to be followed when considering changes to a Surveillance Frequency. NEI-04-10, Rev. 1 has been reviewed and approved by the NRC. Therefore, the process will not be discussed further here.

The relocation of the specified Surveillance Frequencies to licensee control is consistent with Regulatory Guides 1.174 and 1.177. Regulatory Guide 1.177 provides guidance for changing Surveillance Frequencies and Completion Times. However, for allowable risk changes associated with Surveillance Frequency extensions, it refers to Regulatory Guide 1.174, which provides quantitative risk acceptance guidelines for changes to core damage frequency (CDF) and large early release frequency (LERF). Regulatory Guide 1.174 provides additional guidelines that have been adapted in the risk-informed methodology for controlling changes to Surveillance Frequencies.

Regulatory Guide 1.174 identifies five key safety principles to be met for all risk-informed applications and to be explicitly addressed in risk-informed plant program change applications.

1. **The proposed change meets the current regulations unless it is explicitly related to a requested exemption or rule change.**

   10 CFR 50.36(c) provides that TS will include items in the following categories:

   "(3) *Surveillance requirements*. Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

   This change proposes to relocate various Frequencies for the performance of the Surveillance Requirements to a licensee-controlled program using an NRC approved methodology for control of the Surveillance Frequencies. The Surveillance Requirements themselves will remain in TS. This is consistent with other NRC approved TS changes in which the Surveillance Frequencies are not under NRC control, such as Surveillances that are performed in accordance with the Inservice Testing Program or the Containment Leakage Rate Testing Program, where the Frequencies vary based on the past performance of the subject components. Thus, this proposed change meets criterion 1 above.

2. **The proposed change is consistent with the defense-in-depth philosophy.**

   As described in Position 2.2.1.1 of Regulatory Guide 1.174, consistency with the defense-in-depth philosophy is maintained if:

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DISCUSSION OF CHANGES
ITS 3.6.4, CONTAINMENT PRESSURE

- A reasonable balance is preserved among prevention of core damage, prevention of containment failure, and consequence mitigation;
- Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided;
- System redundancy, independence, and diversity are preserved commensurate with the expected frequency, consequences of challenges to the system, and uncertainties (e.g., no risk outliers);
- Defenses against potential common cause failures are preserved, and the potential for the introduction of new common cause failure mechanisms is assessed;
- Independence of barriers is not degraded;
- Defenses against human errors are preserved; and
- The intent of the General Design Criteria in 10 CFR Part 50, Appendix A is maintained.

These defense-in-depth objectives apply to all risk-informed applications, and for some of the issues involved (e.g., no over-reliance on programmatic activities and defense against human errors), it is fairly straightforward to apply them to this proposed change. The use of the multiple risk metrics of CDF and LERF and controlling the change resulting from the implementation of this initiative would maintain a balance between prevention of core damage, prevention of containment failure, and consequence mitigation. Redundancy, diversity, and independence of safety systems are considered as part of the risk categorization to ensure that these qualities are not adversely affected. Independence of barriers and defense against common cause failures are also considered in the categorization. The improved understanding of the relative importance of plant components to risk resulting from the development of this program promotes an improved overall understanding of how the SSCs contribute to the plant's defense-in-depth.

3. **The proposed change maintains sufficient safety margins.**

   Conformance with this principle is assured since SSC design, operation, testing methods and acceptance criteria specified in the Codes and Standards or alternatives approved for use by the NRC, will continue to be met as described in the plant licensing basis (e.g., UFSAR, or Technical Specifications Bases). Also, the safety analysis acceptance criteria in the licensing basis (e.g., UFSAR, supporting analyses, etc.) are met with the proposed change.

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.**

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DISCUSSION OF CHANGES
ITS 3.6.4, CONTAINMENT PRESSURE

NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," will require that changes in core damage frequency or risk are small and consistent with the intent of the Commission's Safety Goal Policy.

5. **The impact of the proposed change should be monitored using performance measurement strategies.**

   NEI 04-10 will require that changes in Surveillance Frequencies be monitored using performance management strategies.

Therefore, the proposed change is consistent with the guidance in Regulatory Guide 1.174.

This change is designated as a less restrictive removal of detail change because a Surveillance Frequency is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L01 *(Category 4 – Relaxation of Required Action)* CTS 3.6.4 ACTION B provides the actions when the Required Actions and associated Completion time of ACTION A is not met. It requires the Unit to be in MODE 3 within 6 hours and MODE 5 within 36 hours. ITS 3.6.4 ACTION B provides the actions to be taken under the same conditions. However, it requires the Unit to be in MODE 3 in 6 hours and MODE 4 in 12 hours. Furthermore, the Required Action to be in MODE 4 is modified by a Note which states LCO 3.0.4.a is not applicable when entering MODE 4. This changes the CTS by eliminating the requirement for the Unit to be in MODE 5 within 36 hours and only requires the Unit to be in MODE 4 within 12 hours.

The purpose of CTS 3.6.4 ACTION B is to place the unit in a condition where the LCO is not applicable. The proposed change, which is consistent with TSTF-422, allows the plant end state to conclude at MODE 4 within 12 hours versus MODE 5 within 36 hours. This change is based on a topical report, CE NPSD-01186 (approved by NRC on July 17, 2001), which justified a modified end state for some TS allowed outage time requirements of which the containment pressure is one. The topical report demonstrates through probabilistic and deterministic safety evaluations that the proposed end states represent a condition of equal or lower risk than the original end states. Preventing plant challenges during shutdown conditions has been, and continues to be, an important aspect of ensuring safe operation of the plant. Past events demonstrate that risk of core damage associated with entry into, and operation in, shutdown cooling is not negligible and should be considered when a plant is required to shutdown. Therefore, the Technical Specifications should encourage plant operation in the steam generator heat removal mode whenever practical, and require reliance on shutdown cooling only when it is a risk beneficial alternative to other actions.

The Note which modifies Required Action B.2 prohibits entry into the end state Mode of Applicability during startup using the provisions of LCO 3.0.4.a. The

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DISCUSSION OF CHANGES
ITS 3.6.4, CONTAINMENT PRESSURE

purpose of this Note is to provide assurance that entry into the end state Mode of Applicability during startup is not made without the appropriate risk assessment. Entry into the end state Mode of Applicability during startup will still be allowed under the provisions of LCO 3.0.4.b. This is acceptable because LCO 3.0.4.b allows entry only after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate. Details of the risk assessment are provided in the Bases for LCO 3.0.4.b.

SONGS will adopt the end states proposed in TSTF-422 and will perform a risk assessment in accordance with 10 CFR 50.65(a)(4) when using the end states regardless of whether maintenance is being performed. The risk assessment will follow Regulatory Guide 1.182, “Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants,” which endorses NUMARC 93-01, “Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants,” Section 11 guidance for implementation of 10 CFR 50.65(a)(4). SONGS will also follow the industry-developed implementation guidance, WCAP-16364-NP, Revision 0, "Implementation Guidance for Risk Informed Modification to Selected Required Action End States at Combustion Engineering NSSS Plants (TSTF-422)," November 2004.

This change is designated as less restrictive because it relaxes the end state from MODE 5 to MODE 4.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

2

3.6 CONTAINMENT SYSTEMS

3.6.4 Containment Pressure (Atmospheric and Dual)

2

LCO 3.6.4

LCO 3.6.4 Containment pressure shall be [Dual: > 14.375 psia and < 27 inches water gauge] [or] [Atmospheric: ≥ -0.3 psig and ≤ +1.5 psig].

4
3

Applicability

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. Containment pressure not within limits.	A.1 Restore containment pressure to within limits.	1 hour
ACTION B B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

4

12

TSTF-422-A

NOTE
LCO 3.0.4.a is not applicable when entering MODE 4.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.4.1 Verify containment pressure is within limits.	12 hours

TSTF-425-A

In accordance with the Surveillance Frequency Control Program

1

San Onofre -- Draft

Amendment XXX

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.4, CONTAINMENT PRESSURE

1. Changes are made (additions, deletions, and/or changes) to the ISTS which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.4 include the parenthetical expression "(Atmospheric and Dual)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment.

3. The ISTS contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

4. SONGS has an Atmospheric type Containment; therefore specific information applicable to a Dual Containment plant are being deleted.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Bases Justification for Deviations (JFDs)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.4A Containment Pressure (Atmospheric)

BASES

BACKGROUND

The containment pressure is limited during normal operation to preserve the initial conditions assumed in the accident analyses for a loss of coolant accident (LOCA) or main steam line break (MSLB). These limits also prevent the containment pressure from exceeding the containment design negative pressure differential with respect to the outside atmosphere in the event of inadvertent actuation of the Containment Spray System.

Containment pressure is a process variable that is monitored and controlled. The containment pressure limits are derived from the input conditions used in the containment functional analyses and the containment structure external pressure analysis. Should operation occur outside these limits coincident with a Design Basis Accident (DBA), post accident containment pressures could exceed calculated values.

APPLICABLE SAFETY ANALYSES

Containment internal pressure is an initial condition used in the DBA analyses to establish the maximum peak containment internal pressure. The limiting DBAs considered for determining the maximum containment internal pressure (P_a) are the LOCA and MSLB. An MSLB at 102% RTP results in the highest calculated internal containment pressure of 55.7 psig, which is below the internal design pressure of 60 psig. The postulated DBAs are analyzed assuming degraded containment Engineered Safety Feature (ESF) systems (i.e., assuming the loss of one ESF bus, which is the worst case single active failure, resulting in one train of the Containment Spray System and one train of the Containment Cooling System being rendered inoperable). It is this maximum containment pressure that is used to ensure that the licensing basis dose limitations are met.

100.58% RTP with a single failure of one main steam isolation valve (MSIV) to close

51.5

or in failure of one diesel generator to start,

The ESF bus single failure is more limiting for the LOCA event but not for the MSLB event.

(Reference 1)

The initial pressure condition used in the containment analysis was [14.7] psia ([0.0] psig). This resulted in a maximum peak pressure from an MSLB of [55.7] psig. The LCO limit of [1.5] psig ensures that, in the event of an accident, the maximum accident design pressure for containment, [60] psig, is not exceeded. If an MSLB occurred while the containment internal pressure was at the LCO value of [1.5] psig, a total pressure of [57.3] psig would result. This value is still below the design value of [60] psig. The containment was also designed for an internal pressure equal to [5.0] psig below external pressure in order to withstand the resultant pressure drop from an accidental actuation of the

plus 0.6 psig effective instrumentation total loop uncertainty. This results in a maximum peak pressure from an MSLB of 51.5 psig.

2

BASES

APPLICABLE SAFETY ANALYSES (continued)

Containment Spray System. The LCO limit of [-0.3] psig ensures that operation within the design limit of [-0.5] psig is maintained. The maximum calculated external pressure that would occur as a result of an inadvertent actuation of the Containment Spray System is [2.8] psig.

-5.0

4.2

3

Containment pressure satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii).

LCO

Maintaining containment pressure less than or equal to the LCO upper pressure limit ensures that, in the event of a DBA, the resultant peak containment accident pressure will remain below the containment design pressure. Maintaining containment pressure greater than or equal to the LCO lower pressure limit ensures that the containment will not exceed the design negative pressure differential following the inadvertent actuation of the Containment Spray System.

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. Since maintaining containment pressure within limits is essential to ensure initial conditions assumed in the accident analysis are maintained, the LCO is applicable in MODES 1, 2, 3, and 4.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, maintaining containment pressure within the limits of the LCO is not required in MODE 5 or 6.

ACTIONS

A.1

When containment pressure is not within the limits of the LCO, containment pressure must be restored to within these limits within 1 hour. The Required Action is necessary to return operation to within the bounds of the containment analysis. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1, "Containment," which requires that containment be restored to OPERABLE status within 1 hour.

B.1 and B.2

If containment pressure cannot be restored to within limits 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 5 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.

overall plant risk is minimized

4

12

INSERT 1

INSERT 2

TSTF-422-A

San Onofre -- Draft

Revision XXX

1 2

TSTF-422-A **INSERT 1**

Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 2). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state.

TSTF-422-A **INSERT 2**

Required Action B.2 is modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate, LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

2

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.4A.1

2

Verifying that containment pressure is within limits ensures that operation remains within the limits assumed in the accident analysis. The 12 hour Frequency of this SR was developed after taking into consideration operating experience related to trending of containment pressure variations during the applicable MODES. Furthermore, the 12 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal containment pressure condition.

TSTF-425-A

INSERT 3

REFERENCES

None.

1. UFSAR, Chapter 15

2. CE NSPD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001.

1

TSTF-422-A

1 2

TSTF-425-A

INSERT 3

The Frequency is controlled under the Surveillance Frequency Control Program. 5

---------- Reviewers Note ----------
Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement. 4

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.4 BASES, CONTAINMENT 'PRESSURE

1. Changes are made (additions, deletions, and/or changes) to the Improved Standard Technical Specification (ISTS) Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.4 Bases include the parenthetical expression "(Atmospheric)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment.

3. The ISTS Bases contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

4. This "Reviewers Note" is being deleted. The Reviewers Note is for the NRC reviewer during the NRC review and will not be part of the plant specific SONGS ITS.

5. The Bases words changed by TSTF-425 have been modified to state "The Frequency is controlled under the Surveillance Frequency Control Program." The Surveillance Frequency Control Program provides the details for how to change the Frequencies, thus the TSTF-425 words concerning operating experience, equipment reliability, and plant risk is not always true for each of the Frequencies.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.4, CONTAINMENT PRESSURE

There are no specific No Significant Hazards Considerations for this Specification.

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ATTACHMENT 5

ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

A01

3.6 CONTAINMENT SYSTEMS

3.6.5 Containment Air Temperature

LCO 3.6.5 LCO 3.6.5 Containment average air temperature shall be ≤ 120°F.

Applicability APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. Containment average air temperature not within limit.	A.1 Restore containment average air temperature to within limit.	8 hours
ACTION B B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE ~~5~~ 4.	6 hours ~~36~~ 12 hours

L01

NOTE
LCO 3.0.4.a is not applicable when entering MODE 4.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.5.1 SR 3.6.5.1 Verify containment average air temperature is within limit.	~~24 hours~~ In accordance with the Surveillance Frequency Control Program

LA01

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A01

3.6 CONTAINMENT SYSTEMS

3.6.5 Containment Air Temperature

LCO 3.6.5 LCO 3.6.5 Containment average air temperature shall be ≤ 120°F.

Applicability APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. Containment average air temperature not within limit.	A.1 Restore containment average air temperature to within limit.	8 hours
ACTION B B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE ~~5~~ 4.	6 hours ~~36~~ 12 hours

L01

NOTE
LCO 3.0.4.a is not applicable when entering MODE 4.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.5.1 SR 3.6.5.1 Verify containment average air temperature is within limit.	~~24 hours~~ In accordance with the Surveillance Frequency Control Program

LA01

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DISCUSSION OF CHANGES
ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

ADMINISTRATIVE CHANGES

A01 In the conversion of the San Onofre Nuclear Generating Station (SONGS) Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1432, Rev. 3.0, "Standard Technical Specifications Combustion Engineering Plants" (ISTS) and additional approved Technical Specification Task Force (TSTF) travelers included in this submittal.

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 4 – Removal of LCO, SR, or other TS requirement to the LCS, UFSAR, ODCM, QAP, CLRT Program, IST Program, ISI Program, or Surveillance Frequency Control Program)* CTS SR 3.6.5.1 requires verification that the containment average air temperature is within limit every 24 hours. ITS SR 3.6.5.1 requires a similar Surveillance but specifies the periodic Frequency as "In accordance with the Surveillance Frequency Test Program." This changes the CTS by moving the specified Frequency for the SR and the Bases for the Frequency to the Surveillance Frequency Control Program.

The control of changes to the Surveillance Frequencies will be in accordance with the Surveillance Frequency Control Program. The Program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met. In addition:

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program;

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1; and

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DISCUSSION OF CHANGES
ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

The referenced document, NEI-04-10, Rev. 1, provides a detailed description of the process to be followed when considering changes to a Surveillance Frequency. NEI-04-10, Rev. 1 has been reviewed and approved by the NRC. Therefore, the process will not be discussed further here.

The relocation of the specified Surveillance Frequencies to licensee control is consistent with Regulatory Guides 1.174 and 1.177. Regulatory Guide 1.177 provides guidance for changing Surveillance Frequencies and Completion Times. However, for allowable risk changes associated with Surveillance Frequency extensions, it refers to Regulatory Guide 1.174, which provides quantitative risk acceptance guidelines for changes to core damage frequency (CDF) and large early release frequency (LERF). Regulatory Guide 1.174 provides additional guidelines that have been adapted in the risk-informed methodology for controlling changes to Surveillance Frequencies.

Regulatory Guide 1.174 identifies five key safety principles to be met for all risk-informed applications and to be explicitly addressed in risk-informed plant program change applications.

1. **The proposed change meets the current regulations unless it is explicitly related to a requested exemption or rule change.**

   10 CFR 50.36(c) provides that TS will include items in the following categories:

   "(3) *Surveillance requirements*. Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

   This change proposes to relocate various Frequencies for the performance of the Surveillance Requirements to a licensee-controlled program using an NRC approved methodology for control of the Surveillance Frequencies. The Surveillance Requirements themselves will remain in TS. This is consistent with other NRC approved TS changes in which the Surveillance Frequencies are not under NRC control, such as Surveillances that are performed in accordance with the Inservice Testing Program or the Containment Leakage Rate Testing Program, where the Frequencies vary based on the past performance of the subject components. Thus, this proposed change meets criterion 1 above.

2. **The proposed change is consistent with the defense-in-depth philosophy.**

   As described in Position 2.2.1.1 of Regulatory Guide 1.174, consistency with the defense-in-depth philosophy is maintained if:

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DISCUSSION OF CHANGES
ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

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

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

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

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

- Defenses against potential common cause failures are preserved, and the potential for the introduction of new common cause failure mechanisms is assessed;

- Independence of barriers is not degraded;

- Defenses against human errors are preserved; and

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

These defense-in-depth objectives apply to all risk-informed applications, and for some of the issues involved (e.g., no over-reliance on programmatic activities and defense against human errors), it is fairly straightforward to apply them to this proposed change. The use of the multiple risk metrics of CDF and LERF and controlling the change resulting from the implementation of this initiative would maintain a balance between prevention of core damage, prevention of containment failure, and consequence mitigation. Redundancy, diversity, and independence of safety systems are considered as part of the risk categorization to ensure that these qualities are not adversely affected. Independence of barriers and defense against common cause failures are also considered in the categorization. The improved understanding of the relative importance of plant components to risk resulting from the development of this program promotes an improved overall understanding of how the SSCs contribute to the plant's defense-in-depth.

3. The proposed change maintains sufficient safety margins.

Conformance with this principle is assured since SSC design, operation, testing methods and acceptance criteria specified in the Codes and Standards or alternatives approved for use by the NRC, will continue to be met as described in the plant licensing basis (e.g., UFSAR, or Technical Specifications Bases). Also, the safety analysis acceptance criteria in the licensing basis (e.g., UFSAR, supporting analyses, etc.) are met with the proposed change.

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DISCUSSION OF CHANGES
ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

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.**

   NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," will require that changes in core damage frequency or risk are small and consistent with the intent of the Commission's Safety Goal Policy.

5. **The impact of the proposed change should be monitored using performance measurement strategies.**

   NEI 04-10 will require that changes in Surveillance Frequencies be monitored using performance management strategies.

Therefore, the proposed change is consistent with the guidance in Regulatory Guide 1.174.

This change is designated as a less restrictive removal of detail change because a Surveillance Frequency is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L01 *(Category 4 – Relaxation of Required Action)* CTS 3.6.5 ACTION B provides the actions when the Required Actions and associated Completion time of ACTION A is not met. It requires the Unit to be in MODE 3 within 6 hours and MODE 5 within 36 hours. ITS 3.6.5 ACTION B provides the actions to be taken under the same conditions. However, it requires the Unit to be in MODE 3 in 6 hours and MODE 4 in 12 hours. Furthermore, the Required Action to be in MODE 4 is modified by a Note which states LCO 3.0.4.a is not applicable when entering MODE 4. This changes the CTS by eliminating the requirement for the Unit to be in MODE 5 within 36 hours and only requires the Unit to be in MODE 4 within 12 hours.

The purpose of CTS 3.6.5 ACTION B is to place the unit in a condition where the LCO is not applicable. The proposed change, which is consistent with TSTF-422, allows the plant end state to conclude at MODE 4 within 12 hours versus MODE 5 within 36 hours. This change is based on a topical report, CE NPSD-01186 (approved by NRC on July 17, 2001), which justified a modified end state for some TS allowed outage time requirements of which the containment air temperature is one. The topical report demonstrates through probabilistic and deterministic safety evaluations that the proposed end states represent a condition of equal or lower risk than the original end states. Preventing plant challenges during shutdown conditions has been, and continues to be, an important aspect of ensuring safe operation of the plant. Past events demonstrate that risk of core damage associated with entry into, and operation in, shutdown cooling is not negligible and should be considered when a plant is required to shutdown. Therefore, the Technical Specifications should encourage plant operation in the steam generator heat removal mode whenever practical,

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DISCUSSION OF CHANGES
ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

and require reliance on shutdown cooling only when it is a risk beneficial alternative to other actions.

The Note which modifies Required Action B.2 prohibits entry into the end state Mode of Applicability during startup using the provisions of LCO 3.0.4.a. The purpose of this Note is to provide assurance that entry into the end state Mode of Applicability during startup is not made without the appropriate risk assessment. Entry into the end state Mode of Applicability during startup will still be allowed under the provisions of LCO 3.0.4.b. This is acceptable because LCO 3.0.4.b allows entry only after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate. Details of the risk assessment are provided in the Bases for LCO 3.0.4.b.

SONGS will adopt the end states proposed in TSTF-422 and will perform a risk assessment in accordance with 10 CFR 50.65(a)(4) when using the end states regardless of whether maintenance is being performed. The risk assessment will follow Regulatory Guide 1.182, “Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants,” which endorses NUMARC 93-01, “Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants,” Section 11 guidance for implementation of 10 CFR 50.65(a)(4). SONGS will also follow the industry-developed implementation guidance, WCAP-16364-NP, Revision 0, "Implementation Guidance for Risk Informed Modification to Selected Required Action End States at Combustion Engineering NSSS Plants (TSTF-422)," November 2004.

This change is designated as less restrictive because it relaxes the end state from MODE 5 to MODE 4.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

3.6 CONTAINMENT SYSTEMS

3.6.5 Containment Air Temperature (Atmospheric and Dual) 2

LCO 3.6.5 LCO 3.6.5 Containment average air temperature shall be ≤ [120] °F. 3

Applicability APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. Containment average air temperature not within limit.	A.1 Restore containment average air temperature to within limit.	8 hours
ACTION B B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

INSERT 1: 4 → B.2 Be in MODE 5.; 12 → 36 hours

TSTF-422-A

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.5.1	Verify containment average air temperature is within limit.	24 hours

In accordance with the Surveillance Frequency Control Program

TSTF-425-A

TSTF-422-A

INSERT 1

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 4.

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

1. Changes are made (additions, deletions, and/or changes) to the ISTS which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.5 include the parenthetical expression "(Atmospheric and Dual)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment.

3. The ISTS contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Bases Justification for Deviations (JFDs)

2

B 3.6 CONTAINMENT SYSTEMS

B 3.6.5 Containment Air Temperature (Atmospheric and Dual)

2

BASES

BACKGROUND

The containment structure serves to contain radioactive material that may be released from the reactor core following a Design Basis Accident (DBA). The containment average air temperature is limited during normal operation to preserve the initial conditions assumed in the accident analyses for a loss of coolant accident (LOCA) or main steam line break (MSLB).

The containment average air temperature limit is derived from the input conditions used in the containment functional analyses and the containment structure external pressure analyses. This LCO ensures that initial conditions assumed in the analysis of containment response to a DBA are not violated during unit operations. The total amount of energy to be removed from containment by the Containment Spray and Cooling systems during post accident conditions is dependent on the energy released to the containment due to the event, as well as the initial containment temperature and pressure. The higher the initial temperature, the more energy that must be removed, resulting in a higher peak containment pressure and temperature. Exceeding containment design pressure may result in leakage greater than that assumed in the accident analysis (Ref. 1). Operation with containment temperature in excess of the LCO limit violates an initial condition assumed in the accident analysis.

APPLICABLE SAFETY ANALYSES

Containment average air temperature is an initial condition used in the DBA analyses that establishes the containment environmental qualification operating envelope for both pressure and temperature. The limit for containment average air temperature ensures that operation is maintained within the assumptions used in the DBA analysis for containment. The accident analyses and evaluations considered both LOCAs and MSLBs for determining the maximum peak containment pressures and temperatures. The worst case MSLB generates larger mass and energy releases than the worst case LOCA. Thus, the MSLB event bounds the LOCA event from the containment peak pressure and temperature standpoint. The initial pre-accident temperature inside containment was assumed to be [120]°F (Ref. 2).

[For atmospheric containment, the initial containment average air temperature condition of [120]°F resulted in a maximum vapor temperature in containment of [413]°F. The temperature of the

3

380

, with a 75 second duration for the containment temperature exceeding 300F

1

San Onofre -- Draft

Revision XXX

BASES

APPLICABLE SAFETY ANALYSES (continued)

INSERT 1

containment steel liner and concrete structure reach approximately 230°F and 220°F, respectively. The containment average air temperature limit of [120]°F ensures that, in the event of an accident, the maximum design temperature for containment, [300]°F, is not exceeded. The consequence of exceeding this design temperature may be the potential for degradation of the containment structure under accident loads.

For dual containment, the initial containment condition of [120]°F resulted in a maximum vapor temperature in containment of [413.5]°F. The temperature of the containment steel pressure vessel also reaches approximately [413.5]°F. The containment average temperature limit of [120]°F ensures that, in the event of an accident, the maximum design temperature for containment of [269.3]°F during LOCA conditions and [413.5]°F during MSLB conditions is not exceeded. The consequences of exceeding this design temperature may be the potential for degradation of the containment structure under accident loads.]

Containment average air temperature satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii).

LCO

During a DBA, with an initial containment average air temperature less than or equal to the LCO temperature limit, the resultant accident temperature profile assures that the containment structural temperature is maintained below its design temperature and that required safety related equipment will continue to perform its function.

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, maintaining containment average air temperature within the limit is not required in MODE 5 or 6.

ACTIONS

A.1

When containment average air temperature is not within the limit of the LCO, it must be restored to within limit within 8 hours. This Required Action is necessary to return operation to within the bounds of the containment analysis. The 8 hour Completion Time is acceptable considering the sensitivity of the analysis to variations in this parameter and provides sufficient time to correct minor problems.

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(1) **INSERT 1**

NUREG-0712 (NRC Safety Evaluation Report for SONGS 2 & 3, SER Supplement 2, Section 6.2.1) (Ref. 3) documents the approval of a maximum containment temperature of 405.6°F, with an 85 second duration for the containment temperature exceeding 300°F.

BASES

ACTIONS (continued)

B.1 and B.2

If the containment average air temperature cannot be restored to within its limit 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 5 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 3.6.5.1

Verifying that containment average air temperature is within the LCO limit ensures that containment operation remains within the limit assumed for the containment analyses. In order to determine the containment average air temperature, an arithmetic average is calculated using measurements taken at locations within the containment selected to provide a representative sample of the overall containment atmosphere.

The 24 hour Frequency of this SR is considered acceptable based on the observed slow rates of temperature increase within containment as a result of environmental heat sources (due to the large volume of containment). Furthermore, the 24 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal containment temperature condition.

REFERENCES

1. FSAR, Section [ ].
2. FSAR, Section [ ].

TSTF-422-A **INSERT 2**

Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 4). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state.

TSTF-422-A **INSERT 3**

Required Action B.2 is modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate, LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

TSTF-425-A **INSERT 4**

The Frequency is controlled under the Surveillance Frequency Control Program. 5

---------- Reviewers Note ----------
Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement. 4

TSTF-422-A **INSERT 5**

4. CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001.

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JUSTIFICATION FOR DEVIATIONS
ITS 3.6.5 BASES, CONTAINMENT AIR TEMPERATURE

1. Changes are made (additions, deletions, and/or changes) to the Improved Standard Technical Specification (ISTS) Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.5 Bases include the parenthetical expression "(Atmospheric and Dual)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment.

3. The ISTS Bases contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

4. This "Reviewers Note" is being deleted. The Reviewers Note is for the NRC reviewer during the NRC review and will not be part of the plant specific SONGS ITS.

5. The Bases words changed by TSTF-425 have been modified to state "The Frequency is controlled under the Surveillance Frequency Control Program." The Surveillance Frequency Control Program provides the details for how to change the Frequencies, thus the TSTF-425 words concerning operating experience, equipment reliability, and plant risk is not always true for each of the Frequencies.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

There are no specific No Significant Hazards Considerations for this Specification.

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ATTACHMENT 6

ITS 3.6.6, CONTAINMENT SPRAY AND COOLING SYSTEMS

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS

A01

3.6 CONTAINMENT SYSTEMS

3.6.6.1 Containment Spray and Cooling Systems

LCO 3.6.6

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

A02

Applicability

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

	CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A	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~~
ACTION B	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
ACTION C	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~~

L01

L01

(continued)

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ITS

A01

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION E INSERT 1 ~~B~~. Two containment cooling trains inoperable. E	~~B~~.1 Restore one containment cooling train to OPERABLE status. E	72 hours M01
ACTION G ~~B~~. Two containment spray trains inoperable. <u>OR</u> Any combination of three or more trains inoperable. G	~~B~~.1 Enter LCO 3.0.3. G	Immediately
ACTION F F. Required Action and associated Completion Time of Condition C or ~~B~~ not met. E , D,	F.1 Be in MODE 3. <u>AND</u> INSERT 2 F.2 Be in MODE 4.	6 hours 12 ~~36~~ hours M01 L02

SURVEILLANCE REQUIREMENTS

SURVEILLANCE			FREQUENCY
SR 3.6.6.1 SR	3.6.6.1.1	Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	~~31 days~~ In accordance with the Surveillance Frequency Control Program LA01

(continued)

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M01 **INSERT 1**

D. One containment spray and one containment cooling train inoperable.	D.1	Restore containment spray train to OPERABLE status.	72 hours
	OR		
	D.2	Restore containment cooling train to OPERABLE status.	72 hours

L02 **INSERT 2**

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 4.

ITS

A01

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE		FREQUENCY	
SR 3.6.6.2	SR 3.6.6.1.2	Operate each containment cooling train fan unit for ≥ 15 minutes.	~~31 days~~ In accordance with the Surveillance Frequency Control Program	LA01
SR 3.6.6.3	SR 3.6.6.1.3	Verify each containment cooling train cooling water flow rate is ≥ 2000 gpm to each fan cooler.	~~31 days~~	LA01
SR 3.6.6.4	SR 3.6.6.1.4	Verify the containment spray piping is full of water to within 10 feet of the lowest spray ring. INSERT 3	~~24 months~~ In accordance with the Surveillance Frequency Control Program	LA01 M02
SR 3.6.6.6	SR 3.6.6.1.5	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	~~24 months~~	LA01 L03
SR 3.6.6.7	SR 3.6.6.1.6	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	~~24 months~~ In accordance with the Surveillance Frequency Control Program	LA01
SR 3.6.6.8	SR 3.6.6.1.7	Verify each containment cooling train starts automatically on an actual or simulated actuation signal.	~~24 months~~	LA01
SR 3.6.6.9	SR 3.6.6.1.8	Verify each spray nozzle is unobstructed.	~~10 years~~ In accordance with the Surveillance Frequency Control Program	LA01

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3.6.6.1

M02 **INSERT 3**

SR 3.6.6.5	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program

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ITS

A01

3.6 CONTAINMENT SYSTEMS

3.6.6.2 Containment Cooling Systems

LCO 3.6.6 Note

LCO 3.6.6.2 Two containment cooling trains shall be OPERABLE.

A02

Applicability

APPLICABILITY: MODE 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION C A. One containment cooling train inoperable.	A.1 Restore containment cooling train to OPERABLE status.	7 days
ACTION E B. Two containment cooling trains inoperable.	B.1 Restore one containment cooling train to OPERABLE status.	72 hours
ACTION F C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE ~~5~~ 4.	~~36~~ 12 hours

L02

NOTE
LCO 3.0.4.a is not applicable when entering MODE 4.

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ITS

A01

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY	
SR 3.6.6.2	SR 3.6.6.2.1	Operate each containment cooling train fan unit for ≥ 15 minutes.	~~31 days~~ In accordance with the Surveillance Frequency Control Program	LA01
SR 3.6.6.3	SR 3.6.6.2.2	Verify each containment cooling train cooling water flow rate is ≥ 2000 gpm to each fan cooler.	~~31 days~~ In accordance with the Surveillance Frequency Control Program	LA01
SR 3.6.6.8	SR 3.6.6.2.3	Verify each containment cooling train starts automatically on an actual or simulated actuation signal.	~~24 months~~	LA01

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ITS

A01

3.6 CONTAINMENT SYSTEMS

3.6.6.1 Containment Spray and Cooling Systems

LCO 3.6.6

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

A02

Applicability

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

	CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A	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~~
ACTION B	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
ACTION C	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~~

L01

L01

(continued)

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ITS

A01

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION E INSERT 1 ~~B~~. Two containment cooling trains inoperable. E	~~B~~.1 Restore one containment cooling train to OPERABLE status. E	72 hours M01
ACTION G ~~B~~. Two containment spray trains inoperable. <u>OR</u> Any combination of three or more trains inoperable. G	~~B~~.1 Enter LCO 3.0.3. G	Immediately
ACTION F F. Required Action and associated Completion Time of Condition C or ~~B~~ not met. E , D,	F.1 Be in MODE 3. <u>AND</u> INSERT 2 F.2 Be in MODE 4.	6 hours 12 ~~36~~ hours M01 L02

SURVEILLANCE REQUIREMENTS

SURVEILLANCE			FREQUENCY
SR 3.6.6.1 SR	3.6.6.1.1	Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	~~31 days~~ In accordance with the Surveillance Frequency Control Program LA01

(continued)

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3.6.6.1

M01 **INSERT 1**

D. One containment spray and one containment cooling train inoperable.	D.1	Restore containment spray train to OPERABLE status.	72 hours
	OR		
	D.2	Restore containment cooling train to OPERABLE status.	72 hours

L02 **INSERT 2**

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 4.

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ITS

A01

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE		FREQUENCY	
SR 3.6.6.2	SR 3.6.6.1.2	Operate each containment cooling train fan unit for ≥ 15 minutes.	~~31 days~~	LA01
SR 3.6.6.3	SR 3.6.6.1.3	Verify each containment cooling train cooling water flow rate is ≥ 2000 gpm to each fan cooler.	~~31 days~~	LA01
SR 3.6.6.4	SR 3.6.6.1.4	Verify the containment spray piping is full of water to within 10 feet of the lowest spray ring. INSERT 3	~~24 months~~	LA01, M02
SR 3.6.6.6	SR 3.6.6.1.5	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	~~24 months~~	LA01, L03
SR 3.6.6.7	SR 3.6.6.1.6	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	~~24 months~~	LA01
SR 3.6.6.8	SR 3.6.6.1.7	Verify each containment cooling train starts automatically on an actual or simulated actuation signal.	~~24 months~~	LA01
SR 3.6.6.9	SR 3.6.6.1.8	Verify each spray nozzle is unobstructed.	~~10 years~~	LA01

In accordance with the Surveillance Frequency Control Program

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3.6.6.1

M02 **INSERT 3**

SR 3.6.6.5	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program

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ITS

A01

3.6 CONTAINMENT SYSTEMS

3.6.6.2 Containment Cooling Systems

LCO 3.6.6 Note

LCO 3.6.6.2 Two containment cooling trains shall be OPERABLE.

A02

Applicability

APPLICABILITY: MODE 4.

ACTIONS

	CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION C	A. One containment cooling train inoperable.	A.1 Restore containment cooling train to OPERABLE status.	7 days
ACTION E	B. Two containment cooling trains inoperable.	B.1 Restore one containment cooling train to OPERABLE status.	72 hours
ACTION F	C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE ~~5~~ 4.	~~36~~ 12 hours

L02

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 4.

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ITS

A01

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY	
SR 3.6.6.2	SR 3.6.6.2.1	Operate each containment cooling train fan unit for ≥ 15 minutes.	~~31 days~~ In accordance with the Surveillance Frequency Control Program	LA01
SR 3.6.6.3	SR 3.6.6.2.2	Verify each containment cooling train cooling water flow rate is ≥ 2000 gpm to each fan cooler.	~~31 days~~ In accordance with the Surveillance Frequency Control Program	LA01
SR 3.6.6.8	SR 3.6.6.2.3	Verify each containment cooling train starts automatically on an actual or simulated actuation signal.	~~24 months~~	LA01

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DISCUSSION OF CHANGES
ITS 3.6.6, CONTAINMENT SPRAY AND COOLING SYSTEM

ADMINISTRATIVE CHANGES

A01 In the conversion of the San Onofre Nuclear Generating Station (SONGS) Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1432, Rev. 3.0, "Standard Technical Specifications Combustion Engineering Plants" (ISTS) and additional approved Technical Specification Task Force (TSTF) travelers included in this submittal.

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A02 CTS 3.6.6.1 is the Specification for the Containment Spray and Cooling Systems in MODES 1, 2, and 3. CTS 3.6.6.2 is the Specification for the Containment Cooling System in MODE 4. ITS 3.6.6 is the Specification for the Containment Spray and Cooling Systems in MODES 1, 2, 3, and 4, and includes the MODES 1, 2, and 3 requirements from CTS 3.6.6.1 and the MODE 4 requirements from CTS 3.6.6.2. In addition, since the LCO requirements for CTS 3.6.6.1 and CTS 3.6.6.2 are not the same, a Note is included in ITS 3.6.6 specifying that only the two containment cooling trains are required in MODE 4. This changes the CTS by combining CTS 3.6.6.1 and CTS 3.6.6.2 into one Specification for the Containment Spray and Cooling Systems in MODES 1, 2, 3, and 4.

This proposed change combines the two Specifications into one Specification. This change does not alter either specification or the way they are implemented; therefore, this change is designated as administrative.

MORE RESTRICTIVE CHANGES

M01 CTS 3.6.6.1 ACTION A is for the Condition when one containment spray train is inoperable and requires the train to be restored to OPERABLE status within 7 days. CTS 3.6.6.2 ACTION C is for the Condition when one containment cooling train is inoperable and requires the train to be restored to OPERABLE status within 7 days. The CTS do not contain a specific ACTION when one containment spray train and one containment cooling train are inoperable concurrently. The CTS allow entry into ACTIONS A and C when one train of both containment spray and containment cooling are concurrently inoperable with a Completion Time of 7 days for each of the trains. ITS 3.6.6 contains an ACTION (ACTION D) when one containment spray train and one containment cooling train is inoperable concurrently and limits the time to 72 hours. This changes the CTS by specifically delineating the actions when a containment spray train and a containment cooling train are concurrently inoperable and requires restoration of one of the trains within 72 hours. In addition, due to this new ACTION, the referenced Condition in CTS 3.6.6.1 Condition F has been changed to be consistent with the renumbered Conditions.

This proposed change essentially decreases the Completion Time when one containment spray and one containment cooling train are inoperable concurrently

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from 7 days to 72 hours. With one train of each inoperable, the redundancy of the Containment Spray and Cooling System is degraded. The 72 hours completion is consistent when two trains of containment cooling is inoperable. 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. This change is designated as more restrictive because the Completion Time is reduced when one train of containment spray and one train of containment cooling is inoperable concurrently.

M02 The CTS does not currently contain an SR which requires verifying each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head in accordance with the Inservice Testing Program. ITS SR 3.6.6.5 requires verifying each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head in accordance with the Inservice Testing Program. This changes the CTS by adding a new Surveillance Requirement.

The purpose of ITS SR 3.6.6.5 is to ensure the containment spray pump performance has not degraded during the cycle. This change is acceptable since the new Surveillance Requirement helps ensure the OPERABILITY of the Containment Spray System. This change is designated as more restrictive because a Surveillance Requirement is being added to the ITS that is not required by the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 4 – Removal of LCO, SR, or other TS requirement to the LCS, UFSAR, ODCM, QAP, CLRT Program, IST Program, ISI Program, or Surveillance Frequency Control Program)* CTS SR 3.6.6.1.1 requires verification that each containment spay valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position every 31 days. CTS SR 3.6.6.1.2 and CTS SR 3.6.6.2.1 require each containment cooling train fan unit to operate for ≥ 15 minutes every 31 days. CTS SR 3.6.6.1.3 and CTS SR 3.6.6.2.2 require verification that each containment cooling train cooling water flow rate is ≥ 2000 gpm to each fan cooler every 31 days. CTS SR 3.6.6.1.4 requires verification the containment spray piping is full of water to within 10 feet of the lowest spray ring every 24 months. CTS SR 3.6.6.1.5 requires verification each automatic containment spray valve in the flow path actuates to the correct position on an actual or simulated actuation signal every 24 months. CTS SR 3.6.6.1.6 requires verification each containment spray pump starts automatically on an actual or simulated actuation signal every 24 months. CTS SR 3.6.6.1.7 and CTS

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DISCUSSION OF CHANGES
ITS 3.6.6, CONTAINMENT SPRAY AND COOLING SYSTEM

SR 3.6.6.2.3 require verification each containment cooling train starts automatically on an actual or simulated signal every 24 months. SR 3.6.6.1.8 requires verification each spray nozzle is unobstructed every 24 months. ITS SRs 3.6.6.1, SR 3.6.6.2, SR 3.6.6.3, SR 3.6.6.4, SR 3.6.6.6, SR 3.6.6.7, SR 3.6.6.8, SR 3.6.6.9 require similar Surveillances but specifies the periodic Frequency as "In accordance with the Surveillance Frequency Control Program." This changes the CTS by moving the specified Frequencies for the SRs and the Bases for the Frequencies to the Surveillance Frequency Control Program.

The control of changes to the Surveillance Frequencies will be in accordance with the Surveillance Frequency Control Program. The Program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met. In addition:

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program;

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1; and

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

The referenced document, NEI-04-10, Rev. 1, provides a detailed description of the process to be followed when considering changes to a Surveillance Frequency. NEI-04-10, Rev. 1 has been reviewed and approved by the NRC. Therefore, the process will not be discussed further here.

The relocation of the specified Surveillance Frequencies to licensee control is consistent with Regulatory Guides 1.174 and 1.177. Regulatory Guide 1.177 provides guidance for changing Surveillance Frequencies and Completion Times. However, for allowable risk changes associated with Surveillance Frequency extensions, it refers to Regulatory Guide 1.174, which provides quantitative risk acceptance guidelines for changes to core damage frequency (CDF) and large early release frequency (LERF). Regulatory Guide 1.174 provides additional guidelines that have been adapted in the risk-informed methodology for controlling changes to Surveillance Frequencies.

Regulatory Guide 1.174 identifies five key safety principles to be met for all risk-informed applications and to be explicitly addressed in risk-informed plant program change applications.

1. **The proposed change meets the current regulations unless it is explicitly related to a requested exemption or rule change.**

   10 CFR 50.36(c) provides that TS will include items in the following categories:

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DISCUSSION OF CHANGES
ITS 3.6.6, CONTAINMENT SPRAY AND COOLING SYSTEM

"(3) *Surveillance requirements*. Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

This change proposes to relocate various Frequencies for the performance of the Surveillance Requirements to a licensee-controlled program using an NRC approved methodology for control of the Surveillance Frequencies. The Surveillance Requirements themselves will remain in TS. This is consistent with other NRC approved TS changes in which the Surveillance Frequencies are not under NRC control, such as Surveillances that are performed in accordance with the Inservice Testing Program or the Containment Leakage Rate Testing Program, where the Frequencies vary based on the past performance of the subject components. Thus, this proposed change meets criterion 1 above.

2. **The proposed change is consistent with the defense-in-depth philosophy.**

   As described in Position 2.2.1.1 of Regulatory Guide 1.174, consistency with the defense-in-depth philosophy is maintained if:

   - A reasonable balance is preserved among prevention of core damage, prevention of containment failure, and consequence mitigation;
   - Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided;
   - System redundancy, independence, and diversity are preserved commensurate with the expected frequency, consequences of challenges to the system, and uncertainties (e.g., no risk outliers);
   - Defenses against potential common cause failures are preserved, and the potential for the introduction of new common cause failure mechanisms is assessed;
   - Independence of barriers is not degraded;
   - Defenses against human errors are preserved; and
   - The intent of the General Design Criteria in 10 CFR Part 50, Appendix A is maintained.

   These defense-in-depth objectives apply to all risk-informed applications, and for some of the issues involved (e.g., no over-reliance on programmatic activities and defense against human errors), it is fairly straightforward to apply them to this proposed change. The use of the multiple risk metrics of CDF and LERF and controlling the change resulting from the implementation

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of this initiative would maintain a balance between prevention of core damage, prevention of containment failure, and consequence mitigation. Redundancy, diversity, and independence of safety systems are considered as part of the risk categorization to ensure that these qualities are not adversely affected. Independence of barriers and defense against common cause failures are also considered in the categorization. The improved understanding of the relative importance of plant components to risk resulting from the development of this program promotes an improved overall understanding of how the SSCs contribute to the plant's defense-in-depth.

3. **The proposed change maintains sufficient safety margins.**

   Conformance with this principle is assured since SSC design, operation, testing methods and acceptance criteria specified in the Codes and Standards or alternatives approved for use by the NRC, will continue to be met as described in the plant licensing basis (e.g., UFSAR, or Technical Specifications Bases). Also, the safety analysis acceptance criteria in the licensing basis (e.g., UFSAR, supporting analyses, etc.) are met with the proposed change.

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.**

   NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," will require that changes in core damage frequency or risk are small and consistent with the intent of the Commission's Safety Goal Policy.

5. **The impact of the proposed change should be monitored using performance measurement strategies.**

   NEI 04-10 will require that changes in Surveillance Frequencies be monitored using performance management strategies.

Therefore, the proposed change is consistent with the guidance in Regulatory Guide 1.174.

This change is designated as a less restrictive removal of detail change because Surveillance Frequencies are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L01 *(Category 3 – Relaxation of Completion Time)* CTS 3.6.6.1 ACTION A is for the condition when one containment spray train is inoperable. CTS 3.6.6.1 ACTION C is for the condition when one containment cooling train is inoperable. The Required Action for both conditions requires the restoration of the train to OPERABLE status within 7 days and 14 days from discovery of failure to meet the LCO. ITS 3.6.6 ACTION A is for the condition when one containment spray train is inoperable. ITS 3.6.6 ACTION C is for the condition when one containment cooling train is inoperable. The Required Action for both conditions

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requires the restoration of the train to OPERABLE status within 7 days. This changes the CTS by deleting the second Completion Time that requires restoration of the inoperable train within 14 days from discovery of failure to meet the LCO.

The second Completion Time was included in the SONGS TS and originally in the ISTS for certain Required Actions to establish a limit on the maximum time allowed for any combination of Conditions that result in a single continuous failure to meet the LCO. These Completion Times (henceforth referred to as "second Completion Times") are joined by an "AND" logical connector to the Condition-specific Completion Time and state "X days from discovery of failure to meet the LCO" (where "X" varies by specification). The intent of the second Completion Time was to preclude entry into and out of the ACTIONS for an indefinite period of time without meeting the LCO by providing a limit on the amount of time that the LCO could not be met for various combinations of Conditions.

This change was initiated (in accordance with NUREG-1432 as revised by TSTF-439) due to the problems the second Completion Time presents when Completion Times are extended by risk informed methodology, which complicates both the presentation of the ITS and the implementation of risk-informed Completion Times. Deleting the second Completion Time is acceptable due to other regulatory requirements that are now present that were not present when the second Completion Time was proposed.

The two regulatory programs in place which provide a strong disincentive to continued operation with concurrent multiple inoperabilities of the type the second Completion Times were designed to prevent are the Maintenance Rule,10 CFR 50.65, and the Reactor Oversight Process, NEI 99-02.

The Maintenance Rule requires each licensee to monitor the performance of System, Structures, and Components (SSCs) against licensee-established goals to ensure that the SSCs are capable of fulfilling their intended functions. This Rule also considers all inoperable risk-significant equipment and not just those in the same system or those governed by the same LCO. The risk assessments performed prior to maintenance activities are governed by Regulatory Guide 1.182. Any issues associated with equipment inoperability is monitored by the NRC Resident Inspector and reported in the Corrective Action Program.

The Reactor Oversight Process: NEI 99-02, “Regulatory Assessment Performance Indicator Guideline,” describes the tracking and reporting of performance indicators to support the NRC’s Reactor Oversight Process (ROP). The NEI document is endorsed by RIS 2001-11, “Voluntary Submission of Performance Indicator Data.” NEI 99-02, Section 2.2, describes the Mitigating Systems Cornerstone. NEI 99-02 specifically addresses emergency AC Sources (which encompasses the AC Sources and Distribution System LCOs), and the Auxiliary feedwater system. Extended unavailability of these systems due to multiple entries into the ACTIONS would affect the NRC’s evaluation of the licensee’s performance under the ROP.

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DISCUSSION OF CHANGES
ITS 3.6.6, CONTAINMENT SPRAY AND COOLING SYSTEM

In addition to these regulatory programs, a requirement is being added to TS Section 1.3 which requires the licensees to have administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls should consider plant risk and shall limit the maximum contiguous time of failing to meet the LCO. This Technical Specification requirement, when considered with the regulatory processes discussed above, provide an equivalent or superior level of plant safety without the unnecessary complication of the Technical Specifications by second Completion Times on some Specifications.

This change is considered less restrictive because it results in the relaxation of the Completion Time by eliminating the requirement for the train to be restored 14 days from discovery of failure to meet the LCO.

L02 *(Category 4 – Relaxation of Required Action)* CTS 3.6.6.1 ACTION F is for the condition, in MODES 1, 2, and 3, when any Required Action and associated Completion Time is not met when one or both containment cooling trains are inoperable and requires the unit to be in MODE 3 in 6 hours and MODE 4 in 36 hours. CTS 3.6.6.2 ACTION C is for the condition, in MODE 4, when any Required Action and associated Completion Time is not met when one or two containment cooling trains are inoperable and requires the unit to be in MODE 5 in 36 hours. ITS 3.6.6 ACTION F is for the condition, in MODES 1, 2, 3, and 4, when any Required Action and associated Completion time is not met when one or both containment cooling trains are inoperable or if one train of containment spray and one train of containment cooling is inoperable; and requires the unit to be in MODE 3 in 6 hours and MODE 4 in 12 hours. ITS 3.6.6 Required Action F.2 is also modified by a Note which states LCO 3.0.4.a is not applicable when entering MODE 4. This changes the CTS by reducing the Completion Time to be in MODE 4 when one or two containment cooling trains are inoperable from 36 hours to 12 hours when the Required Action and associated Completion Time is not met, and eliminates the requirement to be in MODE 5 when in MODE 4 and one or two containment cooling trains are inoperable and the Required Action and associated Completion Time is not met. The change also adds a Note to the MODE 4 Required Action that LCO 3.0.4.a is not applicable.

The purpose of CTS 3.6.6.1 ACTION F and CTS 3.6.6.2 ACTION C is to place the unit in a condition where the LCO is not applicable. The proposed change, which is consistent with TSTF-422, allows the plant end state to conclude at MODE 4 within 12 versus MODE 5 within 36 hours. This change is based on a topical report, CE NPSD-01186 (approved by NRC on July 17, 2001), which justified a modified end state for some TS allowed outage time requirements of which the Containment Spray and Cooling System is one. The topical report demonstrates through probabilistic and deterministic safety evaluations that the proposed end states represent a condition of equal or lower risk than the original end states. Preventing plant challenges during shutdown conditions has been, and continues to be, an important aspect of ensuring safe operation of the plant. Past events demonstrate that risk of core damage associated with entry into, and operation in, shutdown cooling is not negligible and should be considered when a plant is required to shutdown. Therefore, the Technical Specifications should encourage plant operation in the steam generator heat removal mode whenever

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practical, and require reliance on shutdown cooling only when it is a risk beneficial alternative to other actions.

The Note which modifies CTS 3.6.6.1 Required Action F.2 and CTS 3.6.6.2 Required Action C.1 prohibits entry into the end state Mode of Applicability during startup using the provisions of LCO 3.0.4.a. The purpose of this Note is to provide assurance that entry into the end state Mode of Applicability during startup is not made without the appropriate risk assessment. Entry into the end state Mode of Applicability during startup will still be allowed under the provisions of LCO 3.0.4.b. This is acceptable because LCO 3.0.4.b allows entry only after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate. Details of the risk assessment are provided in the Bases for LCO 3.0.4.b.

SONGS will adopt the end states proposed in TSTF-422 and will perform a risk assessment in accordance with 10 CFR 50.65(a)(4) when using the end states regardless of whether maintenance is being performed. The risk assessment will follow Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants," which endorses NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Section 11 guidance for implementation of 10 CFR 50.65(a)(4). SONGS will also follow the industry-developed implementation guidance, WCAP-16364-NP, Revision 0, "Implementation Guidance for Risk Informed Modification to Selected Required Action End States at Combustion Engineering NSSS Plants (TSTF-422)," November 2004.

Although in one case this change reduces Completion Time to get to the end State, it is considered overall to be less restrictive because it relaxes the end state for Required Actions.

L03 *(Category 5 – Deletion of Surveillance Requirement)* CTS SR 3.6.6.1.5 requires verification that each automatic containment spray valve in the flow path actuates to its correct position. ITS SR 3.6.6.6 requires verification that each automatic containment spray valve in the flow path "that is not locked, sealed, or otherwise secured in position" actuates to the correct position. This changes the CTS by excluding those valves that are locked, sealed, or otherwise secured in position from the verification.

The purpose of CTS SR 3.6.6.1.5 is to provide assurance that if an event occurred requiring containment spray valves to be in their correct position, then those requiring automatic actuation would actuate to their correct position. This change is acceptable because the deleted Surveillance is not necessary to verify that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a Frequency necessary to provide confidence that the equipment can perform its assumed safety function. Those automatic valves that are locked, sealed, or otherwise secured in position are not required to actuate on a containment spray actuation signal in order to perform their safety function because they are already in the required position. Testing such valves would not provide any additional

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assurance of OPERABILITY. Valves that are required to actuate will continue to be tested. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

3.6 CONTAINMENT SYSTEMS

3.6.6A Containment Spray and Cooling Systems (Atmospheric and Dual)
(Credit taken for iodine removal by the Containment Spray System)

2

1

LCO 3.6.6.1, LCO 3.6.6.2

LCO 3.6.6A Two containment spray trains and two containment cooling trains shall be OPERABLE.

2

INSERT 1

4

3.6.6.1 Applicability, 3.6.6.2 Applicability

APPLICABILITY: MODES 1, 2, 3, and [4].

3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
3.6.6.1 ACTION A A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	[7] days 3
3.6.6.1 ACTION B B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5. 4	6 hours 84 hours 4
3.6.6.1 ACTION C, 3.6.6.2 ACTION A C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days
NA D. One containment spray and one containment cooling train inoperable.	D.1 Restore containment spray train to OPERABLE status. OR D.2 Restore containment cooling train to OPERABLE status.	72 hours 72 hours

TSTF-422 changes not adopted

4 **INSERT 1**

----------NOTE----------

LCO 3.6.6.2 Only two containment cooling trains are required to be OPERABLE in MODE 4.

U2/U3 CTS

2

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
3.6.1 ACTION D, 3.6.2 ACTION B E. Two containment cooling trains inoperable.	E.1 Restore one containment cooling train to OPERABLE status.	72 hours
3.6.1 ACTION F, 3.6.2 ACTION C F. Required Action and associated Completion Time of Condition C, D, or E not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 5. (INSERT 2, 4)	6 hours 36 hours (12) TSTF-422-A
3.6.1 ACTION E G. Two containment spray trains inoperable. OR Any combination of three or more trains inoperable.	G.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.1 SR 3.6.6A.1	Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days (INSERT 3) 2 TSTF-425-A
SR 3.6.1.2, SR 3.6.2.1 SR 3.6.6A.2	Operate each containment cooling train fan unit for ≥ 15 minutes.	31 days (INSERT 3) 2 TSTF-425-A
SR 3.6.1.3, SR 3.6.2.2 SR 3.6.6A.3	Verify each containment cooling train cooling water flow rate is ≥ [2000] gpm to each fan cooler.	31 days (INSERT 3) 2 3 TSTF-425-A

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TSTF-422-A **INSERT 2**

----------NOTE----------
LCO 3.0.4.a is not applicable when entering MODE 4.

TSTF-425-A **INSERT 3**

In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE		FREQUENCY
SR 3.6.6.1.4	SR 3.6.6A.4	[Verify the containment spray piping is full of water to the [100] ft level in the containment spray header. (within 10 ft of the lowest spray ring)	31 days] (INSERT 3) (3) (2) TSTF-425-A
DOC M02	SR 3.6.6A.5	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program (2)
SR 3.6.6.1.5	SR 3.6.6A.6	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	[18] months (INSERT 3) (2) TSTF-425-A
SR 3.6.6.1.6	SR 3.6.6A.7	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	[18] months (INSERT 3) (2) TSTF-425-A
SR 3.6.6.1.7, SR 3.6.6.2.3	SR 3.6.6A.8	Verify each containment cooling train starts automatically on an actual or simulated actuation signal.	[18] months (INSERT 3) (2) TSTF-425-A
SR 3.6.6.1.8	SR 3.6.6A.9	Verify each spray nozzle is unobstructed.	[At first refueling] (2) (3) AND 10 years (INSERT 3) TSTF-425-A

TSTF-425-A

INSERT 3

In accordance with the Surveillance Frequency Control Program

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.6, CONTAINMENT SPRAY AND COOLING SYSTEM

1. Changes are made (additions, deletions, and/or changes) to the ISTS which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.6 include the parenthetical expression "(Atmospheric and Dual)." Furthermore, the "A" Specification is for plants where credit is taken for iodine removal by the Containment Spray System. This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment and credit is taken in the accident analysis for iodine removal by the Containment Spray System.

3. The ISTS contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

4. A Note is being added that states "Only two containment cooling trains are required to be OPERABLE in MODE 4." This Note is being added because the Containment Spray System is not credited in the MODE 4 accident analysis. Only containment cooling is credited in MODE 4. Thus, ITS 3.6.6 will not require the Containment Spray System to be OPERABLE in MODE 4. Due to this change, ISTS 3.6.6 Required Action B.2 has been changed to only require the unit to be in MODE 4 versus MODE 5. This results in the unit being placed in a MODE where the Containment Spray System is not required. Both of these changes are consistent with the current SONGS Units 2 and 3 CTS. Furthermore, TSTF-422 also allowed the Required Action to be changed to only require a shutdown to MODE 4, with a Note restricting the use of LCO 3.0.4.a. However, since the Containment Spray System is not required in MODE 4, this Note is not required and has not been adopted.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Bases Justification for Deviations (JFDs)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.6A Containment Spray and Cooling Systems (Atmospheric and Dual)
(Credit taken for iodine removal by the Containment Spray System)

BASES

BACKGROUND

The Containment Spray and Containment Cooling systems provide containment atmosphere cooling to limit post accident pressure and temperature in containment to less than the design values. Reduction of containment pressure and the iodine removal capability of the spray reduce the release of fission product radioactivity from containment to the environment, in the event of a Design Basis Accident (DBA), to within limits. The Containment Spray and Containment Cooling systems are designed to the requirements of 10 CFR 50, Appendix A, GDC 38, "Containment Heat Removal," GDC 39, "Inspection of Containment Heat Removal Systems," GDC 40, "Testing of Containment Heat Removal Systems," GDC 41, "Containment Atmosphere Cleanup," GDC 42, "Inspection of Containment Atmosphere Cleanup Systems," and GDC 43, "Testing of Containment Atmosphere Cleanup Systems" (Ref. 1), or other documents that were appropriate at the time of licensing (identified on a unit specific basis).

The Containment Cooling System and Containment Spray System are Engineered Safety Feature (ESF) systems. They are designed to ensure that the heat removal capability required during the post accident period can be attained. The Containment Spray System and the Containment Cooling System provide redundant methods to limit and maintain post accident conditions to less than the containment design values.

Containment Spray System

The Containment Spray System consists of two separate trains of equal capacity, each capable of meeting the design bases. Each train includes a containment spray pump, spray headers, nozzles, valves, and piping. Each train is powered from a separate ESF bus. The refueling water storage tank (RWT) supplies borated water to the containment spray during the injection phase of operation. In the recirculation mode of operation, containment spray pump suction is transferred from the RWT to the containment sump(s).

The Containment Spray System provides a spray of cold borated water mixed with sodium hydroxide from the spray additive tank into the upper regions of containment to reduce containment pressure and temperature and to reduce the concentration of fission products in the containment atmosphere during a DBA. The RWT solution temperature is an

BASES

BACKGROUND (continued)

important factor in determining the heat removal capability of the Containment Spray System during the injection phase. In the recirculation mode of operation, heat is removed from the containment sump water by the shutdown cooling heat exchangers. Each train of the Containment Spray System provides adequate spray coverage to meet 50% of the system design requirements for containment heat removal and 100% of the iodine removal design bases.

INSERT 1

The Spray Additive System injects a hydrazine (N_2H_4) solution into the spray. The resulting alkaline pH of the spray enhances its ability to scavenge fission products from the containment atmosphere. The N_2H_4 added to the spray also ensures an alkaline pH for the solution recirculated in the containment sump. The alkaline pH of the containment sump water minimizes the evolution of iodine and minimizes the occurrence of chloride and caustic stress corrosion on mechanical systems and components exposed to the fluid.

The Containment Spray System is actuated either automatically by a containment High-High pressure signal coincident with a safety injection actuation signal (SIAS) or manually. An automatic actuation opens the containment spray pump discharge valves, starts the two Containment Spray System pumps, and begins the injection phase. The containment spray header isolation valves open upon a containment spray actuation signal. A manual actuation of the Containment Spray System is available on the main control board to begin the same sequence. The injection phase continues until an RWT level Low signal is received. The Low level for the RWT generates a recirculation actuation signal that aligns valves from the containment spray pump suction to the containment sump. The Containment Spray System in recirculation mode maintains an equilibrium temperature between the containment atmosphere and the recirculated sump water. Operation of the Containment Spray System in the recirculation mode is controlled by the operator in accordance with the emergency operating procedures.

Containment Cooling System

Two trains of containment cooling, each of sufficient capacity to supply 50% of the design cooling requirement, are provided. Two trains with two fan units each are supplied with cooling water from a separate train of service water cooling. All four fans are required to furnish the design cooling capacity. Air is drawn into the coolers through the fans and discharged to the steam generator compartments and pressurizer compartment.

Component Cooling Water (CCW)

(4) **INSERT 1**

When the water from the containment spray mixes with the Trisodium Phosphate (stored in baskets in the containment sump), in the recirculation mode of operation, the resulting alkaline pH of the spray enhances its ability to scavenge fission products from the containment atmosphere. This also ensures an alkaline pH for the solution recirculated in the containment sump.

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BASES

BACKGROUND (continued)

In post accident operation following a containment cooling actuation signal (CCAS), all four Containment Cooling System fans are designed to start automatically in slow speed. Cooling is shifted from the chilled water cooled coils to the service water cooled coils. The temperature of the service water is an important factor in the heat removal capability of the fan units.

CCW System

APPLICABLE SAFETY ANALYSES

The Containment Spray System and Containment Cooling System limit the temperature and pressure that could be experienced following a DBA. The limiting DBAs considered relative to containment temperature and pressure are the loss of coolant accident (LOCA) and the main steam line break (MSLB). The DBA LOCA and MSLB are analyzed using computer codes designed to predict the resultant containment pressure and temperature transients. No DBAs are assumed to occur simultaneously or consecutively. The postulated DBAs are analyzed with regard to containment ESF systems, assuming the loss of one ESF bus, which is the worst case single active failure, resulting in one train of the Containment Spray System and one train of the Containment Cooling System being rendered inoperable.

51.5

The analysis and evaluation show that under the worst case scenario, the highest peak containment pressure is [55.7] psig (experienced during an MSLB). The analysis shows that the peak containment vapor

380

temperature is [413]°F (experienced during an MSLB). Both results are within the design. (See the Bases for Specifications 3.6.4A and 3.6.4B, "Containment Pressure," and 3.6.5, "Containment Air Temperature," for a detailed discussion.) The analyses and evaluations assume a power level of [102]% RTP, one containment spray train and one containment cooling train operating, and initial (pre-accident) conditions of [120]°F and

100.58

[14.7] psia. The analyses also assume a response time delayed initiation in order to provide a conservative calculation of peak containment pressure and temperature responses.

2.1 psig

The effect of an inadvertent containment spray actuation has been analyzed. An inadvertent spray actuation reduces the containment

-4.2

pressure to [-2.8] psig due to the sudden cooling effect in the interior of the air tight containment. Additional discussion is provided in the Bases for Specifications 3.6.4A, 3.6.4B, and 3.6.12, "Vacuum Relief Valves."

, with a 75 second duration for the containment temperature exceeding 300F

INSERT 2

.

4 **INSERT 2**

NUREG-0712 (NRC Safety Evaluation Report for SONGS 2&3, SER Supplement 2, Section 6.2.1) (Ref. 5) documents the approval of a maximum containment temperature of 405.6°F, with an 85 second duration for the containment temperature exceeding 300°F.

BASES

APPLICABLE SAFETY ANALYSES (continued)

The modeled Containment Spray System actuation from the containment analysis is based upon a response time associated with exceeding the containment High-High pressure setpoint coincident with an SIAS to achieve full flow through the containment spray nozzles. The Containment Spray System total response time of [60] seconds includes diesel generator startup (for loss of offsite power), block loading of equipment, containment spray pump startup, and spray line filling (Ref. 2).

The performance of the containment cooling train for post accident conditions is given in Reference 3. The result of the analysis is that each train can provide 50% of the required peak cooling capacity during the post accident condition. The train post accident cooling capacity under varying containment ambient conditions, required to perform the accident analyses, is also shown in Reference 4.

The modeled Containment Cooling System actuation from the containment analysis is based upon the unit specific response time associated with exceeding the CCAS to achieve full Containment Cooling System air and safety grade cooling water flow.

The Containment Spray System and the Containment Cooling System satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

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. 5). 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 RWT 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.

7 **INSERT 3**

The LCO is modified by a Note that states only two containment cooling trains are required to be OPERABLE in MODE 4. In MODE 4, the Containment Spray System is not credited in the accident analysis. Only the Containment Cooling System is credited in MODE 4.

BASES

APPLICABILITY

In MODES 1, 2, 3, and 4, 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.

INSERT 4

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

----------REVIEWER'S NOTE----------
Utilization of the 7 day Completion Time for Required Action A.1 is dependent on the licensee adopting CE NPSD-1045-A (Ref. 6) and meeting the requirements of the Topical Report and the associated Safety Evaluation. Otherwise, a 72 hour Completion Time applies.

With one containment spray train inoperable, the inoperable containment spray train must be restored to OPERABLE status within [7] days. In this Condition, the remaining OPERABLE spray and cooling trains are adequate to perform the iodine removal and containment cooling functions. The [7] day Completion Time takes into account the redundant heat removal capability afforded by the Containment Spray System, reasonable time for repairs, and the findings of Ref. 6.

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 5 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 5 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.

TSTF-422 changes not adopted

7 **INSERT 4**

In MODE 4, 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 cooling trains. The Containment Spray System is not credited in MODE 4.

BASES

ACTIONS (continued)

C.1

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

D.1 and D.2

With one containment spray and one containment cooling train 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 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.

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BASES

ACTIONS (continued)

F.1 and F.2

If the Required Actions and associated Completion Times of Condition C, D, or E 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 5 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.

the overall plant risk is minimized

12

INSERT 5

4

INSERT 6

TSTF-422-A

G.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.

SURVEILLANCE REQUIREMENTS

SR 3.6.6A.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 that those valves outside containment and capable of potentially being mispositioned are in the correct position.

INSERT 7

TSTF-425-A

SR 3.6.6A.2

Operating each containment cooling train fan unit for ≥ 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.

INSERT 7

TSTF-425-A

TSTF-422-A **INSERT 5**

Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 4). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state.

TSTF-422-A **INSERT 6**

Required Action F.2 is modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate, LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

TSTF-425-A **INSERT 7**

The Frequency is controlled under the Surveillance Frequency Control Program. 9

---------- Reviewers Note ----------
Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement. 6

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6A.3

Verifying a service water 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 Cooling Water System, the two train redundancy, and the low probability of a significant degradation of flow occurring between surveillances.

[SR 3.6.6A.4

Verifying that the containment spray header piping is full of water to the [100] ft level 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 31 day 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 3.6.6A.5

Verifying that each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head ensures that spray pump performance has not degraded during the cycle. Flow and differential pressure are normal tests of centrifugal pump performance required by the ASME Code (Ref. 7). Since the containment spray pumps cannot be tested with flow through the spray headers, they are tested on recirculation flow. This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice inspections confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. The Frequency of this SR is in accordance with the Inservice Testing Program.

TSTF-425-A

INSERT 7

The Frequency is controlled under the Surveillance Frequency Control Program.

9

---------- Reviewers Note ----------
Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement.

6

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6A.6 and SR 3.6.6A.7

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. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The [18] 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 [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

INSERT 7

TSTF-425-A

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.

SR 3.6.6A.8

This SR verifies that each containment cooling train actuates upon receipt of an actual or simulated actuation signal. The [18] month Frequency is based on engineering judgment and has been shown to be acceptable through operating experience. See SR 3.6.6A.6 and SR 3.6.6A.7, above, for further discussion of the basis for the [18] month Frequency.

INSERT 7

TSTF-425-A

SR 3.6.6A.9

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 [the first refueling and at] 10 year intervals is considered adequate to detect obstruction of the spray nozzles.

INSERT 7

TSTF-425-A

TSTF-425-A

INSERT 7

The Frequency is controlled under the Surveillance Frequency Control Program. 9

---------- Reviewers Note ----------
Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement. 6

BASES

REFERENCES

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

2. FSAR, Section [ ].

3. FSAR, Section [ ].

4. FSAR, Section [ ].

5. FSAR, Section [ ].

6. CE NPSD-1045-A, "CEOG Joint Application Report for Modification to the Containment Spray System Technical Specifications," March 2000.

7. ASME Code for Operation and Maintenance of Nuclear Power Plants.

TSTF-422-A

INSERT 8

4. CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001.

1

INSERT 9

5. NUREG-0712.

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.6 BASES, CONTAINMENT SPRAY AND COOLING SYSTEM

1. Changes are made (additions, deletions, and/or changes) to the Improved Standard Technical Specification (ISTS) Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.6 Bases include the parenthetical expression "(Atmospheric and Dual)." Furthermore, the "A" Specification is for plants where credit is taken for iodine removal by the Containment Spray System. This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment and credit is taken in the accident analysis for iodine removal by the Containment Spray System.

3. The ISTS Bases contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

4. The statement "NUREG-0712 (NRC Safety Evaluation Report for SONGS 2&3, SER Supplement 2, Section 6.2.1) (Ref. 5)" documents the approval of a maximum containment temperature of 405.6°F, with an 85 second duration for the containment temperature exceeding 300°F," was added to the ITS Bases to document the reference for the maximum containment temperature.

5. SONGS Units 2 and 3 utilize Trisodium Phosphate stored in baskets in the containment sump to scavenge the fission products from the containment atmosphere. SONGS Units 2 and 3 do not have a Spray Additive System like the one described in the ISTS Bases.

6. This "Reviewers Note" is being deleted. The Reviewers Note is for the NRC reviewer during the NRC review and will not be part of the plant specific SONGS ITS. For the Reviewer's Note to Actions A.1, the allowances of CE-NPSD-1045-A have already been incorporated into the SONGS Units 2 and 3 Technical Specifications as shown in the CTS.

7. Changes are made to the Bases to be consistent with changes made to the actual Specification.

8. SONGS CTS nor ITS includes a Specification on vacuum relief valves.

9. The Bases words changed by TSTF-425 have been modified to state "The Frequency is controlled under the Surveillance Frequency Control Program." The Surveillance Frequency Control Program provides the details for how to change the Frequencies, thus the TSTF-425 words concerning operating experience, equipment reliability, and plant risk is not always true for each of the Frequencies.

10. Change made to be consistent with the actual Specification.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.6, CONTAINMENT SPRAY AND COOLING SYSTEM

There are no specific No Significant Hazards Considerations for this Specification.

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ATTACHMENT 7

ITS 3.6.8, CONTAINMENT DOME AIR CIRCULATORS

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS

A01

3.6 CONTAINMENT SYSTEMS

3.6.8 Containment Dome Air Circulators

LCO 3.6.8 LCO 3.6.8 Two dome air circulator trains shall be OPERABLE.

Applicability APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. One dome air circulator train inoperable.	A.1 ~~--------NOTE--------- LCO 3.0.4 is not applicable. ----------~~ Restore dome air circulator train to OPERABLE status.	M01 30 days
ACTION B B. Two dome air circulator trains inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained. AND B.2 Restore one dome air circulator train to OPERABLE status.	1 hour 7 days
ACTION C C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours

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ITS

A01

M02

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY
SR 3.6.8.2	SR 3.6.8.1	Verify each dome air circulator flow rate is ≥ 37,000 cfm.	~~24 months~~ In accordance with the Surveillance Frequency Control Program
SR 3.6.8.3	SR 3.6.8.2	Verify each dome air circulator train starts on an actual or simulated actuation signal.	~~24 months~~ In accordance with the Surveillance Frequency Control Program

INSERT 1

train

A02

LA01

LA01

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ITS

M02 **INSERT 1**

SR 3.6.8.1	SR 3.6.8.1	Operate each dome air circulator train for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program

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ITS

A01

3.6 CONTAINMENT SYSTEMS

3.6.8 Containment Dome Air Circulators

LCO 3.6.8 LCO 3.6.8 Two dome air circulator trains shall be OPERABLE.

Applicability APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. One dome air circulator train inoperable.	A.1 ~~--------NOTE--------- LCO 3.0.4 is not applicable. ----------~~ Restore dome air circulator train to OPERABLE status.	M01 30 days
ACTION B B. Two dome air circulator trains inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained. AND B.2 Restore one dome air circulator train to OPERABLE status.	1 hour 7 days
ACTION C C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours

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M02

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY
SR 3.6.8.2	SR 3.6.8.1	Verify each dome air circulator flow rate is ≥ 37,000 cfm.	~~24 months~~ In accordance with the Surveillance Frequency Control Program
SR 3.6.8.3	SR 3.6.8.2	Verify each dome air circulator train starts on an actual or simulated actuation signal.	~~24 months~~ In accordance with the Surveillance Frequency Control Program

INSERT 1

train

A02

LA01

LA01

ITS

M02 **INSERT 1**

SR 3.6.8.1	SR 3.6.8.1	Operate each dome air circulator train for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program

DISCUSSION OF CHANGES
ITS 3.6.8, CONTAINMENT DOME AIR CIRCULATORS

ADMINISTRATIVE CHANGES

A01 In the conversion of the San Onofre Nuclear Generating Station (SONGS) Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1432, Rev. 3.0, "Standard Technical Specifications Combustion Engineering Plants" (ISTS) and additional approved Technical Specification Task Force (TSTF) travelers included in this submittal.

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A02 CTS SR 3.6.8.1 requires verification of each dome air circulator flow rate. ITS SR 3.6.8.2 will require verification of each dome air circulator "train" flow rate. This changes the CTS by adding the word "train" to each dome air circulator flow rate.

This purpose of adding the word "train" to the dome air circulators in CTS SR 3.8.6.1 is to ensure the SR is consistent with the LCO requirement, which is on a train basis. This change is designated as administrative because it is a clarification and does not change the Frequency or the way the SR is currently performed.

MORE RESTRICTIVE CHANGES

M01 CTS 3.6.8 Required Action A.1 requires the dome air circulator train to be restored to OPERABLE status and is modified by a Note which states LCO 3.0.4 is not applicable. ITS 3.6.8 Required Action A.1 does not include this Note. This changes the CTS by deleting the exception to LCO 3.0.4 from the Required Action.

The purpose of the Note to CTS 3.6.8 Required Action A.1 is to allow the unit to continue MODE changes during a startup with one dome air circulator fan inoperable. The proposed change to CTS 3.6.8 Required Action A.1 deletes the Note. Thus, if one dome air circulator train is inoperable, ITS 3.6.8 will only allow MODE changes during a startup using the allowances of ITS LCO 3.0.4.b, which requires performance of a risk assessment prior to changing MODES. This change adds the requirement to perform a risk assessment in order to enter the MODES of Applicability while the LCO is not met. Therefore, this change is considered acceptable. This change is designated as more restrictive because additional requirements are being added to the ITS than are required by the CTS.

M02 ITS 3.6.8 includes an SR (SR 3.6.8.1) to operate each dome circulator train for ≥ 15 minutes in accordance with the Surveillance Frequency Control Program. CTS 3.6.8 does not contain this Surveillance. This changes the CTS by adding this SR.

The purpose of the proposed SR 3.6.8.1 is to ensure the train is OPERABLE and that all associated controls are functioning properly. It also ensures that

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blockage, fan and/or motor failure, or excessive vibration can be detected for corrective action. The initial Frequency specified in the Surveillance Frequency Control Program will be 92 days. Therefore, this change is considered acceptable. This change is designated as more restrictive because an additional SR is being required in the ITS that is not in the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 4 – Removal of LCO, SR, or other TS requirement to the LCS, UFSAR, ODCM, QAP, CLRT Program, IST Program, ISI Program, or Surveillance Frequency Control Program)* CTS SR 3.6.8.1 requires verification each dome air circulator flow rate is ≥ 37,000 cfm every 24 months. CTS 3.6.8.2 requires each dome air circulator train starts on an actual or simulated actuation signal every 24 months. ITS SR 3.6.8.2 and SR 3.6.8.3 require similar Surveillances but specify the periodic Frequencies as "In accordance with the Surveillance Frequency Test Program." This changes the CTS by moving the specified Frequencies for the SRs and the Bases for the Frequencies to the Surveillance Frequency Control Program.

The control of changes to the Surveillance Frequencies will be in accordance with the Surveillance Frequency Control Program. The Program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met. In addition:

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program;

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1; and

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

The referenced document, NEI-04-10, Rev. 1, provides a detailed description of the process to be followed when considering changes to a Surveillance Frequency. NEI-04-10, Rev. 1 has been reviewed and approved by the NRC. Therefore, the process will not be discussed further here.

The relocation of the specified Surveillance Frequencies to licensee control is consistent with Regulatory Guides 1.174 and 1.177. Regulatory Guide 1.177 provides guidance for changing Surveillance Frequencies and Completion Times.

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DISCUSSION OF CHANGES
ITS 3.6.8, CONTAINMENT DOME AIR CIRCULATORS

However, for allowable risk changes associated with Surveillance Frequency extensions, it refers to Regulatory Guide 1.174, which provides quantitative risk acceptance guidelines for changes to core damage frequency (CDF) and large early release frequency (LERF). Regulatory Guide 1.174 provides additional guidelines that have been adapted in the risk-informed methodology for controlling changes to Surveillance Frequencies.

Regulatory Guide 1.174 identifies five key safety principles to be met for all risk-informed applications and to be explicitly addressed in risk-informed plant program change applications.

1. **The proposed change meets the current regulations unless it is explicitly related to a requested exemption or rule change.**

   10 CFR 50.36(c) provides that TS will include items in the following categories:

   "(3) *Surveillance requirements*. Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

   This change proposes to relocate various Frequencies for the performance of the Surveillance Requirements to a licensee-controlled program using an NRC approved methodology for control of the Surveillance Frequencies. The Surveillance Requirements themselves will remain in TS. This is consistent with other NRC approved TS changes in which the Surveillance Frequencies are not under NRC control, such as Surveillances that are performed in accordance with the Inservice Testing Program or the Containment Leakage Rate Testing Program, where the Frequencies vary based on the past performance of the subject components. Thus, this proposed change meets criterion 1 above.

2. **The proposed change is consistent with the defense-in-depth philosophy.**

   As described in Position 2.2.1.1 of Regulatory Guide 1.174, consistency with the defense-in-depth philosophy is maintained if:

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

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

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

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DISCUSSION OF CHANGES
ITS 3.6.8, CONTAINMENT DOME AIR CIRCULATORS

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

- Defenses against potential common cause failures are preserved, and the potential for the introduction of new common cause failure mechanisms is assessed;

- Independence of barriers is not degraded;

- Defenses against human errors are preserved; and

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

These defense-in-depth objectives apply to all risk-informed applications, and for some of the issues involved (e.g., no over-reliance on programmatic activities and defense against human errors), it is fairly straightforward to apply them to this proposed change. The use of the multiple risk metrics of CDF and LERF and controlling the change resulting from the implementation of this initiative would maintain a balance between prevention of core damage, prevention of containment failure, and consequence mitigation. Redundancy, diversity, and independence of safety systems are considered as part of the risk categorization to ensure that these qualities are not adversely affected. Independence of barriers and defense against common cause failures are also considered in the categorization. The improved understanding of the relative importance of plant components to risk resulting from the development of this program promotes an improved overall understanding of how the SSCs contribute to the plant's defense-in-depth.

3. **The proposed change maintains sufficient safety margins.**

   Conformance with this principle is assured since SSC design, operation, testing methods and acceptance criteria specified in the Codes and Standards or alternatives approved for use by the NRC, will continue to be met as described in the plant licensing basis (e.g., UFSAR, or Technical Specifications Bases). Also, the safety analysis acceptance criteria in the licensing basis (e.g., UFSAR, supporting analyses, etc.) are met with the proposed change.

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.**

   NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," will require that changes in core damage frequency or risk are small and consistent with the intent of the Commission's Safety Goal Policy.

5. **The impact of the proposed change should be monitored using performance measurement strategies.**

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DISCUSSION OF CHANGES
ITS 3.6.8, CONTAINMENT DOME AIR CIRCULATORS

NEI 04-10 will require that changes in Surveillance Frequencies be monitored using performance management strategies.

Therefore, the proposed change is consistent with the guidance in Regulatory Guide 1.174.

This change is designated as a less restrictive removal of detail change because Surveillance Frequencies are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

None

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

U2/U3 CTS

HMS (Atmospheric and Dual)

Containment Dome Air Circulators

3.6.9

3.6 CONTAINMENT SYSTEMS

3.6.9 Hydrogen Mixing System (HMS) (Atmospheric and Dual)

Containment Dome Air Circulators

dome air circulator

LCO 3.6.8

LCO 3.6.9 [Two] HMS trains shall be OPERABLE.

Applicability

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
ACTION A A. One HMS train inoperable.	A.1 Restore HMS train to OPERABLE status.	30 days
ACTION B B. [Two HMS trains inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained. AND B.2 Restore one HMS train to OPERABLE status.	1 hour AND Once every 12 hours thereafter 7 days]
ACTION C C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours

U2/U3 CTS

HMS (Atmospheric and Dual)
Containment Dome Air Circulators
3.6.9
8
1 2
2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
DOC M02 SR 3.6.9.1 (8)	dome air circulator: Operate each HMS train for ≥ 15 minutes.	92 days (In accordance with the Surveillance Frequency Control Program) (2 1 TSTF-425-A)
SR 3.6.8.1 SR 3.6.9.2 (8)	dome air circulator: Verify each HMS train flow rate on slow speed is ≥ [37,000] cfm.	[18] months (In accordance with the Surveillance Frequency Control Program) (2 1 TSTF-425-A; 3)
SR 3.6.8.2 SR 3.6.9.3 (8)	dome air circulator: Verify each HMS train starts on an actual or simulated actuation signal.	[18] months (In accordance with the Surveillance Frequency Control Program) (2 1 TSTF-425-A)

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.8, CONTAINMENT DOME AIR CIRCULATORS

1. Changes are made (additions, deletions, and/or changes) to the ISTS which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.9 include the parenthetical expression "(Atmospheric and Dual)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment. Furthermore, the Specification is renumbered to ITS 3.6.8 since ISTS 3.6.7 and ISTS 3.6.8 are not included in the SONGS ITS and the fact that this is the current SONGS Technical Specification number.

3. The ISTS contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

4. The ISTS 3.6.9 Required Action B.1 second Completion Time of once every 12 hours is not being included in the SONGS ITS. This Completion Time is being deleted based on the ISTS 3.6.9 Bases Section for ACTION B.1 and B.2 Reviewers Note, which requires the Completion Time of every 12 hours thereafter when the alternate hydrogen control function is not in the Technical Specification. The alternate method at SONGS is the Containment Spray System and the Containment Emergency Fan Coolers, which are required per Technical Specifications (ITS 3.6.6). This is also consistent with the CTS, which does not require this additional Completion Time.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Bases Justification for Deviations (JFDs)

HMS (Atmospheric and Dual) 1 2
Containment Dome Air Circulators
B 3.6.9 2
8

B 3.6 CONTAINMENT SYSTEMS

B 3.6.9 Hydrogen Mixing System (HMS) (Atmospheric and Dual) 2 1
8
Containment Dome Air Circulators

BASES

containment dome air circulators

BACKGROUND

The HMS reduces the potential for breach of containment due to a hydrogen oxygen reaction by providing a uniformly mixed post accident containment atmosphere, thereby minimizing the potential for local hydrogen burns due to a local pocket of hydrogen above the flammable concentration and giving the operator the capability of preventing the occurrence of a bulk hydrogen burn inside containment per 10 CFR 50.44, "Standards for Combustible Gas Control Systems in Light-Water-Cooled Reactors" (Ref. 1), and 10 CFR 50, GDC 41, "Containment Atmosphere Cleanup" (Ref. 2). 1

dome air circulator

The post accident HMS is an Engineered Safety Feature and is designed to withstand a loss of coolant accident (LOCA) without loss of function. The system has two independent trains, each of which consists of two dome air circulation fans, motors, and controls. Each train is sized for [37,000] cfm. The two trains are initiated automatically on a containment cooling actuation signal (CCAS) or can be manually started from the control room. Each train is powered from a separate emergency power supply. Since each train can provide 100% of the mixing requirements, the system will provide its design function with a limiting single active failure. 1 1 3

100% capacity

capable of providing 74,000 cfm, with each fan providing the minimum required

dome air circulator

The HMS accelerates the air mixing process between the upper dome space of the containment atmosphere during LOCA operations. It also prevents any hot spot air pockets during the containment cooling mode and avoids any hydrogen concentration in pocket areas. 1

Hydrogen mixing within the containment is accomplished by the Containment Spray System, the containment emergency fan coolers, and the containment internal structure design, which permits convective mixing and prevents entrapment. The HMS, operating in conjunction with the Containment Spray System and the emergency fan coolers, prevents localized accumulations of hydrogen from exceeding the flammability limit of 4.1 volume percent (v/o). 1

dome air circulator

dome air circulators

APPLICABLE SAFETY ANALYSES

The HMS mixes the containment atmosphere to provide a uniform hydrogen concentration. 1

Hydrogen may accumulate in containment following a LOCA as a result of:

BASES

APPLICABLE SAFETY ANALYSES (continued)

a. A metal steam reaction between the zirconium fuel rod cladding and the reactor coolant; 6

b. Radiolytic decomposition of water in the Reactor Coolant System (RCS) and the containment sump; 6

c. Hydrogen in the RCS at the time of the LOCA (i.e., hydrogen dissolved in the reactor coolant and hydrogen gas in the pressurizer vapor space); or 6

d. Corrosion of metals exposed to Containment Spray System and Emergency Core Cooling Systems solutions.

INSERT 1 → To evaluate the potential for hydrogen accumulation in containment following a LOCA, the hydrogen generation as a function of time following the initiation of the accident is calculated. Conservative assumptions recommended by Reference 3 are used to maximize the amount of hydrogen calculated. 1

dome air circulators satisfy → The HMS satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

dome air circulator → Two HMS trains must be OPERABLE, with power to each from an independent, safety related power supply. Each train typically consists of two fans with their own motors and controls and is automatically initiated by a CCAS.

While each train has two fans, only one OPERABLE fan is required for the train to be OPERABLE, since each fan can provide the necessary flow rate to adequately mix the containment atmosphere.

dome air circulator → Operation with at least one HMS train provides the mixing necessary to ensure uniform hydrogen concentration throughout containment.

APPLICABILITY

dome air circulator → In MODES 1 and 2, the two HMS trains ensure the capability to prevent localized hydrogen concentrations above the flammability limit of 4.1 v/o in containment, assuming a worst case single active failure.

In MODE 3 or 4, both the hydrogen production rate and the total hydrogen produced after a LOCA would be less than that calculated for the DBA LOCA. Also, because of the limited time in these MODES, the probability of an accident requiring the HMS is low. Therefore, the HMS is not required in MODE 3 or 4.

dome air circulator

dome air circulators are

In MODES 5 and 6, the probability and consequences of a LOCA or main steam line break are low due to the pressure and temperature limitations of these MODES. Therefore, the HMS is not required in these MODES.

dome air circulators are

1

1 **INSERT 1**

Reference 3 eliminated certain requirements of 10 CFR 50.44 and 10 CFR 50, Appendix A, GDC 41, from the SONGS Units 2 and 3 licensing basis. In addition, as part of the rulemaking that revised 10 CFR 50.44, the NRC retained requirements for ensuring a mixed atmosphere. The NRC eliminated the design basis loss of coolant accident hydrogen release for 10 CFR 50.44 and consolidated the requirements for hydrogen and oxygen monitoring to 10 CFR 50.44, while relaxing safety classifications and licensee commitments to certain design and qualification criteria. As such, the containment dome air circulators are required only to ensure a mixed atmosphere, as required by 10 CFR 50.44.

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BASES

ACTIONS

A.1

dome air circulator

With one HMS train inoperable, the inoperable train must be restored to OPERABLE status within 30 days. The 30 day Completion Time is based on the availability of the other HMS train, the small probability of a LOCA or SLB occurring (that would generate an amount of hydrogen that exceeds the flammability limit), the amount of time available after a LOCA or SLB (should one occur) for operator action to prevent hydrogen accumulation from exceeding the flammability limit, and the availability of the Containment Spray System and Hydrogen Purge System.

dome air circulator

monitors

1

B.1 and B.2

----------REVIEWER'S NOTE----------
This Condition is only allowed for units with an alternate hydrogen control system acceptable to the technical staff.

4

dome air circulators

With two HMS inoperable, the ability to perform the hydrogen control function via alternate capabilities must be verified by administrative means within 1 hour. The alternate hydrogen control capabilities are provided by [the containment Hydrogen Purge System/Hydrogen Ignitor System/HMS/Containment Air Dilution System/Containment Inerting System]. The 1 hour Completion Time allows a reasonable period of time to verify that a loss of hydrogen control function does not exist.

the Containment Spray System and the Containment Emergency Fan Coolers

5

----------REVIEWER'S NOTE----------
The following is to be used if a non-Technical Specification alternate hydrogen control function is used to justify this Condition. In addition, the alternate hydrogen control system capability must be verified every 12 hours thereafter to ensure its continued availability.

4

[Both] the [initial] verification [and all subsequent verifications] may be performed as an administrative check, by examining logs or other information to determine the availability of the alternate hydrogen control system. It does not mean to perform the Surveillances needed to demonstrate OPERABILITY of the alternate hydrogen control system. If the ability to perform the hydrogen control function is maintained, continued operation is permitted with two HMS trains inoperable for up to 7 days. Seven days is a reasonable time to allow two HMS trains to be inoperable because the hydrogen control function is maintained and because of the low probability of the occurrence of a LOCA that would generate hydrogen in the amounts capable of exceeding the flammability limit.

5

dome air circulator

1

BASES

ACTIONS (continued)

C.1

dome air circulator

If an inoperable HMS 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. 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. 1

SURVEILLANCE REQUIREMENTS

8

SR 3.6.9.1

dome air circulator

Operating each HMS train for ≥ 15 minutes ensures that the train is OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan and/or motor failure, or excessive vibration can be detected for corrective action. The 92 day Frequency is consistent with Inservice Testing Program Surveillance Frequencies, operating experience, the known reliability of the fan motors and controls, and the two train redundancy available. 2 1 TSTF-425-A

INSERT 2

8

SR 3.6.9.2

dome air circulator

Verifying that each HMS train flow rate on slow speed is ≥ [37,000] cfm ensures that each train is capable of maintaining localized hydrogen concentrations below the flammability limit. The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. 2 1 3 TSTF-425-A

INSERT 2

8

SR 3.6.9.3

dome air circulator

This SR ensures that the HMS responds properly to a CCAS. The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. 2 1 TSTF-425-A

INSERT 2

TSTF-425-A

INSERT 2

The Frequency is controlled under the Surveillance Frequency Control Program. 7

---------- Reviewers Note ----------
Plants controlling Surveillance Frequencies under a Surveillance Frequency Control Program should utilize the appropriate Frequency description, given above, and the appropriate choice of Frequency in the Surveillance Requirement. 4

BASES

REFERENCES

1. 10 CFR 50.44.
2. 10 CFR 50, Appendix A, GDC 41.
3. Regulatory Guide 1.7, Revision [1]. Letter from L. Raghaven (NRC) to H. Ray (SCE), "Issuance of Exemption from Certain Requirements of 10 CFR 50.44," dated September 3, 1999. 1 3

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.8 BASES, CONTAINMENT DOME AIR CIRCULATORS

1. Changes are made (additions, deletions, and/or changes) to the Improved Standard Technical Specification (ISTS) Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The headings for ISTS 3.6.9 Bases include the parenthetical expression "(Atmospheric)." This identifying information is not included in the San Onofre Nuclear Generating Station (SONGS) ITS. This information is provided in the NUREG to assist in identifying the appropriate Specification to be used as a model for a plant specific ITS conversion, but serves no purpose in a plant specific ITS implementation. Therefore, this information is not required and is being deleted. Note that SONGS Units 2 and 3 have an atmospheric type of containment**.** Furthermore, the Specification is re-numbered to ITS 3.6.8 since ISTS 3.6.7 and ISTS 3.6.8 are not included in the SONGS ITS and the fact that this is the current SONGS Technical Specification number.

3. The ISTS Bases contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed and the proper plant specific information/value is provided. This is acceptable since the information/value is revised to reflect the current licensing basis.

4. This "Reviewers Note" is being deleted. The Reviewers Note is for the NRC reviewer during the NRC review and will not be part of the plant specific SONGS ITS.

5. Changes are made to the Bases to be consistent with changes made to the actual Specification.

6. Changes are made to use correct punctuation, correct typographical errors or to make corrections consistent with the Writers Guide for the Improved Standard Technical Specifications, TSTF-GG-05-01.

7. The Bases words changed by TSTF-425 have been modified to state "The Frequency is controlled under the Surveillance Frequency Control Program." The Surveillance Frequency Control Program provides the details for how to change the Frequencies, thus the TSTF-425 words concerning operating experience, equipment reliability, and plant risk is not always true for each of the Frequencies.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.8, CONTAINMENT DOME AIR CIRCULATORS

There are no specific No Significant Hazards Considerations for this Specification.

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ATTACHMENT 8

Improved Standard Technical Specifications (ISTS) not adopted in the SONGS ITS

ISTS 3.6.7, SPRAY ADDITIVE SYSTEM (ATMOSPHERIC AND DUAL)

Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

3.6 CONTAINMENT SYSTEMS

3.6.7 Spray Additive System (Atmospheric and Dual)

LCO 3.6.7 The Spray Additive System shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and [4].

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Spray Additive System inoperable.	A.1 Restore Spray Additive System to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 84 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.7.1	Verify each spray additive manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days
SR 3.6.7.2	Verify spray additive tank solution volume is ≥ [816] gal [90%] and ≤ [896] gal [100%].	184 days
SR 3.6.7.3	Verify spray additive tank [N_2H_4] solution concentration is ≥ [33]% and ≤ [35]% by weight.	184 days

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.7.4	[Verify each spray additive pump develops a differential pressure of [100] psid on recirculation flow.	In accordance with the Inservice Testing Program]
SR 3.6.7.5	Verify each spray additive automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	[18] months
SR 3.6.7.6	[Verify spray additive flow [rate] from each solution's flow path.	5 years]

1

JUSTIFICATION FOR DEVIATIONS
ISTS 3.6.7, SPRAY ADDITIVE SYSTEM (ATMOSPHERIC AND DUAL)

1. ISTS 3.6.7, "Spray Additive System," is not included in the San Onofre Nuclear Generation Station (SONGS) ITS. SONGS does not have a spray additive system. The components that would normally make up the spray additive system are contained in the ITS 3.6.6, "Containment Spray and Cooling Systems" and ITS 3.5.5, "Trisodium Phosphate (TSP)," at SONGS.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Bases Justification for Deviations (JFDs)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.7 Spray Additive System (Atmospheric and Dual)

BASES

BACKGROUND

The Spray Additive System is a subsystem of the Containment Spray System that assists in reducing the iodine fission product inventory in the containment atmosphere in the event of an accident such as a loss of coolant accident (LOCA).

The addition of a spray additive to the boric acid spray solution increases the pH of the spray solution and maintains the containment sump pH above 8.0 during the recirculation phase of an accident. An elevated pH is desired since it enhances the iodine removal capacity of the sprays and aids in the retention of iodine in the water in the containment sump.

The Spray Additive System consists of a single spray additive tank and two redundant 100% capacity trains. Each train contains a chemical addition pump, an injection valve, isolation valves, a flow meter, and a flow controller. Upon receipt of a containment spray actuation signal (CSAS), the chemical addition pumps start and the injection valves open in each redundant train. The spray additive is then injected into the Containment Spray System at the suction of the containment spray pumps at metered amounts corresponding to the individual containment spray pump discharge flow rate. The rate at which the spray additive is added is reduced when a recirculation actuation signal is generated and the Containment Spray System enters the recirculation mode of operation. The pH of the containment spray solution is maintained between 9.0 and 10.0 during the injection mode and between 8.0 and 9.0 in the recirculation mode. Upon reaching a Low-Low level in the spray chemical addition tank, the spray chemical addition pumps stop and the injection and isolation valves close (Ref. 1). 1

The Spray Additive System aids in reducing the iodine fission production inventory in the containment atmosphere.

APPLICABLE SAFETY ANALYSES

The Spray Additive System is essential to the effective removal of airborne iodine within containment following a Design Basis Accident (DBA).

Following the assumed release of radioactive materials into containment, the containment is assumed to leak at its design value following the accident.

BASES

APPLICABLE SAFETY ANALYSES (continued)

The DBA response time assumed for the Spray Additive System is the same as for the Containment Spray System and is discussed in the Bases for Specification 3.6.6, "Containment Spray and Cooling Systems."

The DBA analyses assume that one train of the Containment Spray System/Spray Additive System is inoperable and that the entire spray additive tank volume is added to the remaining Containment Spray System flow path.

During a LOCA, the iodine inventory released to the containment is considered to be released instantaneously and uniformly distributed in the containment free volume. The containment volume is made up of sprayed and unsprayed regions. The sprayed region is enveloped by direct spray and mixed by the dome air circulators and emergency fan coolers. Mixing between the sprayed and unsprayed regions is facilitated by the emergency fan coolers and condensation of steam by the sprays.

The Spray Additive System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The Spray Additive System is necessary to reduce the release of radioactive material to the environment in the event of a DBA. To be considered OPERABLE, the volume and concentration of the spray additive solution must be sufficient to maintain the pH of the spray solution between [9.0 and 10.0] in the injection mode and [8.0 and 9.0] in the recirculation mode. This pH range maximizes the effectiveness of the iodine removal mechanism, without introducing conditions that may induce caustic stress corrosion cracking of mechanical components.

1

During a LOCA, one Spray Additive System train is capable of providing 100% of the required iodine removal capacity. To ensure at least one train is available in the event of the limiting single failure, both trains must be maintained in an OPERABLE status.

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment requiring the operation of the Spray Additive System. The Spray Additive System assists in reducing the iodine fission product inventory prior to release to the environment.

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

BASES

ACTIONS

A.1

With the Spray Additive System inoperable, the system must be restored to OPERABLE status within 72 hours. The pH adjustment of the containment spray flow for corrosion protection and iodine removal enhancement are reduced in this condition. The Containment Spray System would still be available and would remove some iodine from the containment atmosphere in the event of a DBA. The 72 hour Completion Time takes into account the redundant flow path capabilities and the low probability of the worst case DBA occurring during this period.

B.1 and B.2

If the Spray Additive System 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 5 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 5 allows additional time for restoration of the Spray Additive System and is reasonable when considering the reduced pressure and temperature conditions in MODE 3 for the release of radioactive material from the Reactor Coolant System. 1

SURVEILLANCE REQUIREMENTS

SR 3.6.7.1

Verifying the correct alignment of Spray Additive System manual, power operated, and automatic valves in the spray additive flow path provides assurance that the system is able to provide additive to the Containment Spray System in the event of a DBA. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since these valves were verified to be in the correct position prior to locking, sealing, or securing. This SR does not require any testing or valve manipulation. Rather, it involves verification that those valves outside containment and capable of potentially being mispositioned are in the correct position.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.7.2

To provide effective iodine removal, the containment spray must be an alkaline solution. Since the refueling water tank contents are normally acidic, the volume of the spray additive tank must provide a sufficient volume of spray additive to adjust pH for all water injected. This SR is performed to verify the availability of sufficient hydrazine (N_2H_4) solution in the Spray Additive System. The 184 day Frequency is based on the low probability of an undetected change in tank volume occurring during the SR interval (the tank is isolated during normal unit operations). Tank level is also indicated and alarmed in the control room, such that there is a high confidence that a substantial change in level would be detected.

SR 3.6.7.3

This SR provides verification of the N_2H_4 concentration in the spray additive tank and is sufficient to ensure that the spray solution being injected into containment is at the correct pH level. The concentration of N_2H_4 in the spray additive tank must be determined by chemical analysis. The 184 day Frequency is sufficient to ensure that the concentration level of N_2H_4 in the spray additive tank remains within the established limits. This is based on the low likelihood of an uncontrolled change in concentration (the tank is normally isolated) and the probability that any substantial variance in tank volume will be detected. 1

[SR 3.6.7.4

The chemical addition pump must be verified to provide the flow rate assumed in the accident analysis to the Containment Spray System. The Spray Additive System is not operated during normal operations. This prevents periodically subjecting systems, structures, and components within containment to a caustic spray solution. Therefore, this test must be performed on recirculation with the discharge flow path from each spray chemical addition pump aligned back to the spray additive tank. The differential pressure obtained by the pump on recirculation is analogous to the full spray additive flow provided to the Containment Spray System on an actual CSAS. The Frequency of this SR is in accordance with the Inservice Testing Program and is sufficient to identify component degradation that may affect flow rate.]

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.7.5

This SR verifies that each automatic valve in the Spray Additive System flow path actuates to its correct position on a CSAS. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

[SR 3.6.7.6

To ensure that the correct pH level is established in the borated water solution provided by the Containment Spray System, the flow rate in the Spray Additive System is verified once per 5 years. This SR provides assurance that the correct amount of N_2H_4 will be metered into the flow path upon Containment Spray System initiation. Due to the passive nature of the spray additive flow controls, the 5 year Frequency is sufficient to identify component degradation that may affect flow rate.] 1

REFERENCES 1. FSAR, Section [ ].

JUSTIFICATION FOR DEVIATIONS
ISTS 3.6.7 BASES, SPRAY ADDITIVE SYSTEM (ATMOSPHERIC AND DUAL)

1. The ISTS 3.6.7 Bases was not included because the ISTS 3.6.7 Specification was not included.

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ISTS 3.6.10, IODINE CLEANUP SYSTEM (ICS) (ATMOSPHERIC AND DUAL)

Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

3.6 CONTAINMENT SYSTEMS

3.6.10 Iodine Cleanup System (ICS) (Atmospheric and Dual)

LCO 3.6.10 [Two] ICS trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ICS train inoperable.	A.1 Restore ICS train to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.10.1	Operate each ICS train for [≥ 10 continuous hours with heaters operating or (for systems without heaters) ≥ 15 minutes].	31 days
SR 3.6.10.2	Perform required ICS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.10.3	Verify each ICS train actuates on an actual or simulated actuation signal.	[18] months

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.10.4	[Verify each ICS filter bypass damper can be opened.	[18] months]

1

JUSTIFICATION FOR DEVIATIONS
ISTS 3.6.10, IODINE CLEANUP SYSTEM (ICS) (ATMOSPHERIC AND DUAL)

1. ISTS 3.6.10, "Iodine Cleanup System (ICS)," is not included in the San Onofre Nuclear Generation Station (SONGS) ITS. SONGS does not have an iodine cleanup system. Additionally, the ISTS template that was used to develop ITS 3.6.6, "Containment Spray and Cooling Systems," was ISTS 3.6.6A which credits iodine removal by the Containment Spray System. Therefore, the iodine cleanup function is performed in ITS 3.6.6 by the Containment Spray System and ISTS 3.6.10 is not required.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Bases Justification for Deviations (JFDs)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.10 Iodine Cleanup System (ICS) (Atmospheric and Dual)

BASES

BACKGROUND

The ICS is provided per GDC 41, "Containment Atmosphere Cleanup," GDC 42, "Inspection of Containment Atmosphere Cleanup Systems," and GDC 43, "Testing of Containment Atmosphere Cleanup Systems" (Ref. 1), to reduce the concentration of fission products released to the containment atmosphere following a postulated accident. The ICS would function together with the Containment Spray and Cooling systems following a Design Basis Accident (DBA) to reduce the potential release of radioactive material, principally iodine, from the containment to the environment.

The ICS consists of two 100% capacity separate, independent, and redundant trains. Each train includes a heater, [cooling coils,] a prefilter, a moisture separator, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of radioiodines, and a fan. Ductwork, valves and/or dampers, and instrumentation also form part of the system. The moisture separators function to reduce the moisture content of the airstream. A second bank of HEPA filters follows the adsorber section to collect carbon fines and provide backup in case of failure of the main HEPA filter bank. Only the upstream HEPA filter and the charcoal adsorber section are credited in the analysis. The system initiates filtered recirculation of the containment atmosphere following receipt of a containment isolation actuation signal. The system design is described in Reference 2. 1

The primary purpose of the heaters is to ensure that the relative humidity of the airstream entering the charcoal adsorbers is maintained below 70%, which is consistent with the assigned iodine and iodide removal efficiencies as per Regulatory Guide 1.52 (Ref. 3).

The moisture separator is included for moisture (free water) removal from the gas stream. Heaters are used to heat the gas stream, which lowers the relative humidity. Continuous operation of each train for at least 10 hours per month with the heaters on reduces moisture buildup on the HEPA filters and adsorbers. Both the moisture separator and heater are important to the effectiveness of the charcoal adsorbers.

Two ICS trains are provided to meet the requirement for separation, independence, and redundancy. Each ICS train is powered from a separate Engineered Safety Features bus and is provided with a separate power panel and control panel. [Service water is required to supply cooling water to the cooling coils.]

BASES

APPLICABLE SAFETY ANALYSES

The DBAs that result in a release of radioactive iodine within containment are a loss of coolant accident (LOCA), a main steam line break (MSLB), or a control element assembly (CEA) ejection accident. In the analysis for each of these accidents, it is assumed that adequate containment leak tightness is intact at event initiation to limit potential leakage to the environment. Additionally, it is assumed that the amount of radioactive iodine release is limited by reducing the iodine concentration in the containment atmosphere.

The ICS design basis is established by the consequences of the limiting DBA, which is a LOCA. The accident analysis (Ref. 4) assumes that only one train of the ICS is functional due to a single failure that disables the other train. The accident analysis accounts for the reduction in airborne radioactive iodine provided by the remaining one train of this filtration system.

The ICS satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Two separate, independent, and redundant trains of the ICS are required to ensure that at least one is available, assuming a single failure coincident with a loss of offsite power.

APPLICABILITY

In MODES 1, 2, 3, and 4, iodine is a fission product that can be released from the fuel to the reactor coolant as a result of a DBA. The DBAs that can cause a failure of the fuel cladding are a LOCA, MSLB, and CEA ejection accident. Because these accidents are considered credible accidents in MODES 1, 2, 3, and 4, the ICS must be operable in these MODES to ensure the reduction in iodine concentration assumed in the accident analysis. 1

In MODES 5 and 6, the probability and consequences of a LOCA are low due to the pressure and temperature limitations of these MODES. The ICS is not required in these MODES to remove iodine from the containment atmosphere.

ACTIONS

A.1

With one ICS train inoperable, the inoperable train must be restored to OPERABLE status within 7 days. The components in this degraded condition are capable of providing 100% of the iodine removal needs after a DBA. The 7 day Completion Time is based on consideration of such factors as:

a. The availability of the OPERABLE redundant ICS train,

BASES

ACTIONS (continued)

b. The fact that, even with no ICS train in operation, almost the same amount of iodine would be removed from the containment atmosphere through absorption by the Containment Spray System, and

c. The fact that the Completion Time is adequate to make most repairs.

B.1 and B.2

If the ICS 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 5 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 3.6.10.1

Operating each ICS train for ≥ 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 for corrective action. For systems with heaters, operation with the heaters on (automatic heater cycling to maintain temperature) for ≥ 10 continuous hours eliminates moisture on the adsorbers and HEPA filters. Experience from filter testing at operating units indicates that the 10 hour period is adequate for moisture elimination on the adsorbers and HEPA filters. The 31 day Frequency was developed considering the known reliability of fan motors and controls, the two train redundancy available, and the iodine removal capability of the Containment Spray System independent of the ICS.

1

SR 3.6.10.2

This SR verifies that the required ICS filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.10.3

The automatic startup test verifies that both trains of equipment start upon receipt of an actual or simulated test signal. The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. Furthermore, the Frequency was developed considering that the system equipment OPERABILITY is demonstrated on a 31 day Frequency by SR 3.6.10.1.

[SR 3.6.10.4

The ICS filter bypass dampers are tested to verify OPERABILITY. The dampers are in the bypass position during normal operation and must reposition for accident operation to draw air through the filters. The [18] month Frequency is considered to be acceptable based on the damper reliability and design, the mild environmental conditions in the vicinity of the dampers, and the fact that operating experience has shown that the dampers usually pass the Surveillance when performed at the [18] month Frequency.] 1

REFERENCES

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

2. FSAR, Section [ ].

3. Regulatory Guide 1.52, Revision [2].

4. FSAR, Section [ ].

JUSTIFICATION FOR DEVIATIONS
ISTS 3.6.10 BASES, IODINE CLEANUP SYSTEM (ICS) (ATMOSPHERIC AND DUAL)

1. The ISTS 3.6.10 Bases was not included because the ISTS 3.6.10 Specification was not included.

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