TSTF
TECHNICAL SPECIFICATIONS TASK FORCE
A JOINT OWNERS GROUP ACTIVITY

August 30, 2004

TSTF-04-09

Thomas H. Boyce, Section Chief
Technical Specifications Section
Reactor Operations Branch
Division of Inspection Program Management
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: TSTF-426, Revision 0, "Revise or Add Actions to Preclude Entry into LCO 3.0.3 - RITSTF Initiatives 6b & 6c"

Dear Mr. Boyce:

Enclosed for NRC review is Revision 0 of TSTF-426, "Revise or Add Actions to Preclude Entry into LCO 3.0.3."

This Traveler supports NEI Risk Informed Technical Specification Task Force (RITSTF) Initiative 6b, "Provide Conditions in the LCOs for Those Levels of Degradation Where No Condition Currently Exists to Preclude Entry Into LCO 3.0.3," and 6c, "Provide Specific Times in the LCO For Those Conditions That Require Entry Into LCO 3.0.3 Immediately," for Combustion Engineering plants.

The technical justification for TSTF-426 is presented in WCAP-16125, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent plant Shutdown," Revision 0, dated September 2003. WCAP-16125 was approved by the NRC on July 9, 2004.

We request that NRC review of the Traveler be granted a fee waiver pursuant to the provisions of 10 CFR 170.11. Specifically, the request is to support NRC generic regulatory improvements (risk management technical specifications), in accordance with 10 CFR 170.11(a)(1)(iii). This request is consistent with the NRC letter to A. R. Pietrangelo on this subject dated January 10, 2003.

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The B&W Owners Group

WESTINGHOUSE OWNERS GROUP WOG

BWR OWNERS' GROUP

Should you have any questions, please do not hesitate to contact us.

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Enclosure

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Technical Specification Task Force
Improved Standard Technical Specifications Change Traveler

Revise or Add Actions to Preclude Entry into LCO 3.0.3 - RITSTF Initiatives 6b & 6c

NUREGs Affected: ☐ 1430 ☐ 1431 ☑ 1432 ☐ 1433 ☐ 1434

Classification: 1) Technical Change Recommended for CLIIP?: Yes

Correction or Improvement: Improvement NRC Fee Status: Exempt

Industry Contact: Patricia Furio, (410) 495-4374, patricia.s.furio@ccnppi.com

See attached.

Revision History

OG Revision 0 Revision Status: Active

Revision Proposed by: CEOG

Revision Description:
Original Issue

Owners Group Review Information

Date Originated by OG: 30-May-04

Owners Group Comments:
(No Comments)

Owners Group Resolution: Approved Date: 01-Jun-04

TSTF Review Information

TSTF Received Date: 01-Jun-04 Date Distributed for Review: 25-Jun-04

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:
(No Comments)

TSTF Resolution: Approved Date: 26-Aug-04

NRC Review Information

NRC Received Date: 30-Aug-04

Affected Technical Specifications

Ref. 3.4.9 Bases	Pressurizer	
	Change Description:	Relabeled D
Action 3.4.9.C	Pressurizer	
	Change Description:	Relaeled D
Action 3.4.9.C	Pressurizer	
	Change Description:	New Action
Action 3.4.9.C Bases	Pressurizer	
	Change Description:	New Action
Action 3.4.9.C Bases	Pressurizer	
	Change Description:	Relaeled D
Ref. 3.4.11 Bases	Pressurizer PORVs	
Action 3.4.11.E	Pressurizer PORVs	
Action 3.4.11.E Bases	Pressurizer PORVs	
Action 3.4.11.F	Pressurizer PORVs	
	Change Description:	New Action
Action 3.4.11.F	Pressurizer PORVs	
	Change Description:	Relabeled G
Action 3.4.11.F Bases	Pressurizer PORVs	
	Change Description:	New Action
Action 3.4.11.F Bases	Pressurizer PORVs	
	Change Description:	Relabeled G
Action 3.4.11.G	Pressurizer PORVs	
	Change Description:	Relabeled H
Action 3.4.11.G Bases	Pressurizer PORVs	
	Change Description:	Relabeled H
SR 3.4.11.1 Bases	Pressurizer PORVs	
Ref. 3.5.1 Bases	SITs	
	Change Description:	Relabeled D
Action 3.5.1.C	SITs	
	Change Description:	Relabeled D
Action 3.5.1.C Bases	SITs	
	Change Description:	Relabeled D
Action 3.5.1.D	SITs	
	Change Description:	Relabeled C

Action 3.5.1.D Bases	SITs	
	Change Description:	Relabeled C
Ref. 3.5.2 Bases	ECCS - Operating	
Action 3.5.2.A Bases	ECCS - Operating	
Action 3.5.2.B	ECCS - Operating	
Action 3.5.2.B Bases	ECCS - Operating	
Action 3.5.2.C	ECCS - Operating	
	Change Description:	New Action
Action 3.5.2.C	ECCS - Operating	
	Change Description:	Relabeled E
Action 3.5.2.C Bases	ECCS - Operating	
	Change Description:	New Action
Action 3.5.2.C Bases	ECCS - Operating	
	Change Description:	Relabeled E
Action 3.5.2.D	ECCS - Operating	
	Change Description:	New Action
Action 3.5.2.D	ECCS - Operating	
	Change Description:	Deleted
Action 3.5.2.D Bases	ECCS - Operating	
	Change Description:	Deleted
Action 3.5.2.D Bases	ECCS - Operating	
	Change Description:	New Action
SR 3.5.2.1 Bases	ECCS - Operating	
Ref. 3.6.1B Bases	Containment	
Ref. 3.6.1A Bases	Containment	
Action 3.6.1.A	Containment	
Action 3.6.1A.A Bases	Containment	
Action 3.6.1B.A Bases	Containment	
Action 3.6.1.B	Containment	
Action 3.6.1B.B Bases	Containment	
Action 3.6.1A.B Bases	Containment	

SR 3.6.1A.2 Bases	Containment
SR 3.6.1B.2 Bases	Containment
Ref. 3.6.6B Bases	Containment Spray and Cooling Systems Change Description: Deleted
Ref. 3.6.6A Bases	Containment Spray and Cooling Systems
Action 3.6.6A.B	Containment Spray and Cooling Systems Change Description: Deleted
Action 3.6.6A.B Bases	Containment Spray and Cooling Systems Change Description: Deleted
Action 3.6.6A.C	Containment Spray and Cooling Systems Change Description: Renamed B
Action 3.6.6A.C	Containment Spray and Cooling Systems Change Description: New
Action 3.6.6A.C Bases	Containment Spray and Cooling Systems Change Description: Renamed B
Action 3.6.6A.C Bases	Containment Spray and Cooling Systems Change Description: New
Action 3.6.6A.D	Containment Spray and Cooling Systems
Action 3.6.6A.D Bases	Containment Spray and Cooling Systems
Action 3.6.6A.E	Containment Spray and Cooling Systems Change Description: New
Action 3.6.6A.E Bases	Containment Spray and Cooling Systems Change Description: New
Action 3.6.6B.F	Containment Spray and Cooling Systems Change Description: New
Action 3.6.6B.F	Containment Spray and Cooling Systems Change Description: Relabeled G
Action 3.6.6A.F	Containment Spray and Cooling Systems Change Description: Relabeled G
Action 3.6.6B.F Bases	Containment Spray and Cooling Systems Change Description: New
Action 3.6.6B.F Bases	Containment Spray and Cooling Systems Change Description: Relabeled G
Action 3.6.6A.F Bases	Containment Spray and Cooling Systems Change Description: Relabeled G

Action 3.6.6A.G	Containment Spray and Cooling Systems
	Change Description: Deleted
Action 3.6.6B.G	Containment Spray and Cooling Systems
	Change Description: Deleted
Action 3.6.6A.G Bases	Containment Spray and Cooling Systems
	Change Description: Deleted
Action 3.6.6B.G Bases	Containment Spray and Cooling Systems
	Change Description: Deleted
SR 3.6.6A.5 Bases	Containment Spray and Cooling Systems
SR 3.6.6B.5 Bases	Containment Spray and Cooling Systems
	Change Description: Deleted
Ref. 3.6.8 Bases	SBEACS
Action 3.6.8.B	SBEACS
	Change Description: Relabeled C
Action 3.6.8.B	SBEACS
	Change Description: New
Action 3.6.8.B Bases	SBEACS
	Change Description: New
Action 3.6.8.B Bases	SBEACS
	Change Description: Relabeled C
SR 3.6.8.5 Bases	SBEACS
Ref. 3.6.10 Bases	ICS
Action 3.6.10.B	ICS
	Change Description: New
Action 3.6.10.B	ICS
	Change Description: Relabeled C
Action 3.6.10.B Bases	ICS
	Change Description: New
Action 3.6.10.B Bases	ICS
	Change Description: Relabeled C
Ref. 3.7.11 Bases	CREACS
Action 3.7.11.C	CREACS
	Change Description: Relabeled D
Action 3.7.11.C Bases	CREACS
	Change Description: Relabeled D

Action 3.7.11.D	CREACS	
	Change Description:	Relabeled E
Action 3.7.11.D Bases	CREACS	
	Change Description:	Relabeled E
Action 3.7.11.E	CREACS	
	Change Description:	Relabeled F
Action 3.7.11.E Bases	CREACS	
	Change Description:	Relabeled F
Action 3.7.11.F	CREACS	
	Change Description:	Relabeled C
Action 3.7.11.F Bases	CREACS	
	Change Description:	Relabeled C
SR 3.7.11.3 Bases	CREACS	
SR 3.7.11.4 Bases	CREACS	
Ref. 3.7.12 Bases	CREATCS	
Action 3.7.12.B	CREATCS	
	Change Description:	Relabeled C
Action 3.7.12.B Bases	CREATCS	
	Change Description:	Relabeled C
Action 3.7.12.C	CREATCS	
	Change Description:	Relabeled D
Action 3.7.12.C Bases	CREATCS	
	Change Description:	Relabeled D
Action 3.7.12.D	CREATCS	
	Change Description:	Relabeled E
Action 3.7.12.D Bases	CREATCS	
	Change Description:	Relabeled E
Action 3.7.12.E	CREATCS	
	Change Description:	Relabeled B
Action 3.7.12.E Bases	CREATCS	
	Change Description:	Relabeled B
Ref. 3.7.13 Bases	ECCS PREACS	
Action 3.7.13.C	ECCS PREACS	
	Change Description:	New

Action 3.7.13.C	ECCS PREACS	
	Change Description:	Relabled D
Action 3.7.13.C Bases	ECCS PREACS	
	Change Description:	Relabled D
Action 3.7.13.C Bases	ECCS PREACS	
	Change Description:	New
SR 3.7.13.4 Bases	ECCS PREACS	
Ref. 3.7.15 Bases	PREACS	
Action 3.7.15.C	PREACS	
	Change Description:	New Action
Action 3.7.15.C	PREACS	
	Change Description:	Relabeled D
Action 3.7.15.C Bases	PREACS	
	Change Description:	New Action
Action 3.7.15.C Bases	PREACS	
	Change Description:	Relabeled D
SR 3.7.15.4 Bases	PREACS	

1.0 Description

Topical Report WCAP-16125, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent plant Shutdown," (Ref. 1) justifies modifications to various Technical Specification (TS) Action Statements for conditions that result in a loss of safety function related to a system or component included within the scope of the plant TSs. It revises the current Required Actions from either a default or explicit LCO 3.0.3 entry to a risk-informed action based on the system's risk significance. In most instances, a Completion Time (CT) of 24 hours is justified. WCAP116125 was approved by the NRC on July 9, 2004.

The Topical Report and the Traveler implement Risk Informed Technical Specification Task Force (RITSTF) Initiatives 6b, "Provide Conditions in the LCOs for Those Levels of Degradation Where No Condition Currently Exists to Preclude Entry Into LCO 3.0.3" and 6c, "Provide Specific Times in the LCO For Those Conditions That Require Entry Into LCO 3.0.3 Immediately."

2.0 Proposed Change

The Traveler revises the following Specifications in NUREG-1432 to preclude immediate entry into LCO 3.0.3:

1. TS 3.4.9, Pressurizer, for the condition of the required pressurizer heaters inoperable,
2. TS 3.4.11, Pressurizer PORVs, for the condition of two inoperable PORVs that cannot be manually cycled,
3. TS 3.5.1, Safety Injection Tanks (SITs), for the condition of two or more SITs inoperable,
4. TS 3.5.2, Emergency Core Cooling System (ECCS) - Operating, for the conditions of two Low Pressure Safety Injection (LPSI) trains inoperable and for two High Pressure Safety Injection (HPSI) trains inoperable,
5. TS 3.6.1, Containment, for the condition of an inoperable containment,
6. TS 3.6.6, Containment Spray and Cooling Systems, for the conditions of two containment spray trains inoperable and for two containment spray and two containment cooler trains inoperable,
7. TS 3.6.8, Shield Building Exhaust Air Cleanup System (SPEACS), for the condition of two SBEACS trains inoperable,
8. TS 3.6.10, Iodine Cleanup System (ICS), for the condition of two ICS trains inoperable,
9. TS 3.7.11, Control Room Emergency Air Cleanup System (CREACS), for the condition of two CREACS trains inoperable in Modes 1, 2, 3, and 4,
10. TS 3.7.12, Control Room Emergency Air Temperature Control System (CREATCS), for the condition of two CREATCS trains inoperable in Modes 1, 2, 3, and 4,
11. TS 3.7.13, ECCS Penetration Room Exhaust Air Cleanup System (PREACS), for the condition of two ECCS PREACS trains inoperable, and
12. TS 3.7.15, PREACS, for the condition of two PREACS trains inoperable.

The Bases are modified to reflect the changes to the Specifications.

3.0 Background

In response to the Nuclear Regulatory Commission (NRC's) initiative to improve plant safety by developing risk-informed TSs, the Industry has undertaken a program for defining and obtaining risk-informed TS modifications. WCAP-16125 provides technical justification for the modification of various TSs to define and/or modify Actions to extend the time required to initiate a plant shutdown from 1 hour in accordance with LCO 3.0.3 to a risk-informed time varying from 4 hours to 72 hours. In addition, the report proposes the modification of some of the TS Actions to allow a Mode 4 vice Mode 5 end state when the Required Actions and associated Completion Times cannot be met.

The intent of the proposed modifications to the plant TS is to enhance overall plant safety by:

(a) Avoiding unnecessary plant shutdowns.

(b) Minimizing plant transitions and associated transition and realignment risks.

(c) Providing for increased flexibility in scheduling and performing maintenance and surveillance activities.

(d) Providing explicit guidance where none currently exists.

4.0 Technical Analysis

Topical Report WCAP-16125 (Reference 1) provides a detailed technical analysis of the justification for revising the TS Actions to allow continued operation for a finite period of time when system or function is unavailable. WCAP-16125 was approved by the NRC on July 9, 2004. The justification considered both deterministic and risk-informed evaluations and compared the results to the relevant regulatory guidance. That justification will not be repeated here. This analysis will focus on the proposed changes to the TS and will highlight minor differences between the TS changes described in the Topical Report and the proposed changes in this Traveler.

In addition to proposing changes to the TS Actions to preclude entry into LCO 3.0.3, the Topical Report in some cases proposed changes to the TS "end states," i.e., the final Mode or other specified Condition specified in the Required Actions to which the plant must be brought if the LCO is not met. Several of these end state changes were also proposed in TSTF-422 (Reference 3). As described below, those end state changes proposed in TSTF-422 are not repeated in this Traveler. Those end state changes which were not proposed in TSTF-422 are included in this Traveler.

The Topical Report proposes changes to plant TS on Boration Systems. This system does not appear in the Improved Standard Technical Specifications and, therefore, the proposed changes do not appear in this Traveler.

TS 3.4.9, Pressurizer

TS 3.4.9 does not contain a Condition for all [required] groups of pressurizer heaters inoperable. As a result, this condition would require immediate entry into LCO 3.0.3. A new Condition is being added for all [required] groups of pressurizer heaters inoperable which requires restoration of all but one pressurizer heater to OPERABLE status within 24 hours.

TS 3.4.11, Pressurizer PORVs

TS 3.4.11, Condition E, states that with two PORVs inoperable and not capable of being manually cycled, close and remove power from the associated block valves within 1 hour and be in Mode 3 in 6 hours and Mode 4 in [12] hours. Condition E is modified to add a new Required Action to restore at least one PORV to OPERABLE status within 8 hours. A new Condition F is added which applies if the Required Actions and associated Completion Time of Condition E is not met. Condition F requires being in Mode 3 in 6 hours and Mode 4 in [12] hours. Condition F, now Condition G, is modified to allow 8 hours instead of 2 hours to restore one block valve to OPERABLE status when both block valves are inoperable. Subsequent Actions are renumbered.

The Topical Report refers to "PORVs that are not expected to be isolable following a demand." This is equivalent to the TS condition of "not capable of being manually cycled."

The Topical Report states that the changes to Condition E are not applicable to PORVs that are leaking, and that cannot be isolated by block valves, or to PORVs that are not expected to be isolable following a demand. The LCO Bases state that a leaking PORV is inoperable. Therefore, Actions B or E would apply. Both Actions require closing the associated block valve. If the block valve cannot be closed, an immediate plant shutdown is required. Therefore, the TS enforce the Topical Report conditions that in order to apply the revised Actions, a leaking PORV must be isolated by a block valve and that an inoperable PORV be isolable following a demand.

TS 3.5.1, Safety Injection Tanks (SITs)

TS 3.5.1, Condition D, states that with two or more SITs inoperable, enter LCO 3.0.3 immediately. Condition D is modified to allow 24 hours to restore all but one SIT to OPERABLE status. The order of Conditions C and D are reversed so that if the Required Actions and associated Completion Times of any Actions are not met, the plant must be in Mode 3 in 6 hours and pressurizer pressure must be reduced to < [700] psia within 2 hours in order to exit the Applicability of the TS.

TS 3.5.2, Emergency Core Cooling System (ECCS) – Operating

TS 3.5.2 requires two ECCS trains to be OPERABLE. The Bases define an ECCS train as a LPSI subsystem and a HPSI subsystem. The TS Actions provide a 72 hour Completion Time when one train is inoperable or if more than one train is inoperable but there is at 100% of the ECCS flow equivalent to a single OPERABLE train available. This latter condition addresses the situation of the LPSI subsystem of one train and the HPSI subsystem of the other train inoperable. NUREG-1432 TS 3.5.2 also contains an Action for one LPSI subsystem inoperable.

The Topical Report justifies Actions for two LPSI subsystems and two HPSI subsystems inoperable. In order to clarify the operator actions, the Actions of Specification 3.5.2 are revised to address inoperable subsystems instead of inoperable trains.

The existing Condition A applies when one LPSI subsystem is inoperable.

A new Condition B is added which applies when two LPSI subsystem are inoperable and requires restoration of at least one LPSI subsystem within 24 hours.

A new Condition C is added which applies when one HPSI subsystem is inoperable. The existing Completion Time of 72 hours is applied.

A new Condition D is added which applies when two HPSI subsystems are inoperable and requires restoration of at least one HPSI subsystem within 4 hours.

The existing Condition D, which applies when there is less than 100% of the ECCS flow equivalent to a single OPERABLE train and requires immediate entry into LCO 3.0.3, is eliminated. The conditions which would result in less than 100% ECCS flow equivalent to a single train are addressed by other actions:

- Two LPSI subsystems inoperable and one HPSI subsystem inoperable – CT of 24 hours,
- Two HPSI subsystems inoperable and one LPSI subsystem inoperable – CT of 4 hours, or
- Two HPSI and two LPSI subsystems inoperable – CT of 4 hours.

The Bases are revised to reflect the changes to the TS. The order of references is revised so that the references are numbered in order of appearance.

TS 3.6.1, Containment

TS 3.6.1 states that with the containment inoperable, restore the containment to OPERABLE status within 1 hour or be in Mode 3 in 6 hours and Mode 5 in 36 hours. Condition A is modified to allow 8 hours to restore the containment to OPERABLE status. Condition B is modified to require being in Mode 3 in 6 hours and Mode 4 in 12 hours.

The Topical Report states that the Mode 4 end state is applicable if containment leakage is excessive due to reasons other than the inoperability of two or more Containment Isolation Valves in the same flow path. TS 3.6.3, Containment Isolation Valves, governs this condition and Condition F of TS 3.6.3 requires being in Mode 5. Note that TSTF-422 justified a change to TS 3.6.3, Condition F, from a Mode 5 end state to a Mode 4 end state. The Topical Report supporting TSTF-422 also justified a Mode 4 end state for an inoperable containment (although that change was not included in TSTF-422 for reasons described in the Traveler), so the combination of these two Travelers is acceptable.

There are two Bases sections for TS 3.6.1 – one for atmospheric containments and one for dual containments. Both Bases sections are modified to reflect the changes to the TS.

TS 3.6.6, Containment Spray and Cooling Systems

NUREG-1432 contains two containment spray and cooling system TS – one for plants that credit containment sprays for iodine removal and one that plants that do not. The TS changes discussed in the Topical Report specifically reference the "A" version of the TS, the version for plants that credit containment sprays for iodine removal, because this is the more limiting Specification. However, the authors have confirmed that the changes are equally applicable to the "B" Specification also.

Topical Report Table 5.2.3-2 lists the proposed modifications to the TS. The proposed changes are consistent with that Table. The Table notes that TS 3.6.6A, Condition A, which is applicable when one containment spray train is inoperable, has a 72 hour CT. A footnote to the Table states that TS 3.6.6B provides a 7 day CT for that Condition and the 7 day CT is applicable. Traveler TSTF-409, Revision 2, "Containment Spray System Completion Time Extension," which has been approved by the NRC and incorporated in Revision 3 of NUREG-1432, revised the TS 3.6.6A Completion Time to 7 days.

TS 3.6.6A, Condition B, is eliminated and Condition F is modified to eliminate redundant Actions and to make TS 3.6.6A and TS 3.6.6B similar.

TS 3.6.8, Shield Building Exhaust Air Cleanup System (SBEACS)

This TS was labeled LCO 3.6.13 in the Topical Report. It was renumbered by TSTF-447.

A new Condition B is added which applies when two SBEACS trains are inoperable and allows 24 hours to restore at least one SBEACS train to OPERABLE status. Condition C, which applies when the Required Actions and associated Completion Times are not met, is modified to have a Mode 4 end state

instead of a Mode 5 end state. This end state change was not included in TSTF-422 and is, therefore, included in this Traveler. The Bases changes associated with Condition C are consistent with the changes made in TSTF-422.

TS 3.6.10, Iodine Cleanup System (ICS)
A new Condition B is added which applies when two ICS trains are inoperable and allows 24 hours to restore at least one ICS train to OPERABLE status. Condition C, which applies when the Required Actions and associated Completion Times are not met, is modified to have a Mode 4 end state instead of a Mode 5 end state. This end state change was not included in TSTF-422 and is, therefore, included in this Traveler. The Bases changes associated with Condition C are consistent with the changes made in TSTF-422.

An editorial change is made to the LCO. The LCO requires "[Two]" ICS trains to be OPERABLE. The brackets around "Two" are removed. The Bases describe a two train system and WCAP-16125 describes a two train system. It does not appear that the number of systems should be bracketed and removing the brackets allows addition of an unambiguous action for two trains inoperable.

TS 3.7.11, Control Room Emergency Air Cleanup System (CREACS)
TS 3.7.11, Condition F, applies when two CREACS trains are inoperable due to any reason other than an inoperable control room boundary in Modes 1, 2, 3, or 4 and requires entering LCO 3.0.3 immediately. The Topical Report justifies a 24 hour Completion Time for two CREACS trains inoperable for any reason. Condition F is revised to require restoring one CREACS train to OPERABLE status within 24 hours and moves Condition F to Condition C. Existing Condition C, now Condition D, which requires entering Mode 3 in 6 hours and Mode 5 in 36 hours, is modified to apply to the new Condition C.

The Topical Report states that the 24 hour Completion Time is only applicable if it is less than the time to reach 5 REM operator dose from the radiation field associated with the main steam safety valves lifting due to a steam generator tube rupture. It also only applies if a plant specific analysis demonstrates that the toxic gas and chemical protection functions assumed in the plant's licensing basis can be performed for 24 hours with both CREACS trains inoperable. A Reviewer's Note with these restrictions has been added to the Bases of Condition C.

The Topical Report also justified a change in the end state from Mode 5 to Mode 4. This end state change was included in TSTF-422 and is, therefore, not included in this Traveler.

TS 3.7.12, Control Room Emergency Air Temperature Control System (CREATCS)
TS 3.7.1.2, Action E, applies when two CREATCS trains are inoperable in Mode 1, 2, 3, or 4 and requires entering LCO 3.0.3 immediately. The Topical Report justifies a 24 hour Completion Time for two CREATCS trains inoperable for any reason. Condition E is revised to require restoring one CREATCS train to OPERABLE status within 24 hours and moves Condition E to Condition B. Existing Condition B, now Condition C, which requires entering Mode 3 in 6 hours and Mode 5 in 36 hours, is modified to apply to the new Condition B.

The Topical Report also justified a change in the end state from Mode 5 to Mode 4. This end state change was included in TSTF-422 and is, therefore, not included in this Traveler.

TS 3.7.13, ECCS Penetration Room Exhaust Air Cleanup System (PREACS)
The Topical Report justifies a 24 hour Completion Time when two ECCS PREACS trains are inoperable. A new Action C is added for this condition. Action C is renumbered Action D.

The Topical Report also justified a change in the end state from Mode 5 to Mode 4. This end state change was included in TSTF-422 and is, therefore, not included in this Traveler.

TS 3.7.15, PREACS
The Topical Report justifies a 24 hour Completion Time when two PREACS trains are inoperable. A new Action C is added for this condition. Action C is renumbered Action D.

The Topical Report also justified a change in the end state from Mode 5 to Mode 4. This end state change was included in TSTF-422 and is, therefore, not included in this Traveler.

5.0 Regulatory Analysis

5.1 No Significant Hazards Consideration

The TSTF has evaluated whether or not a significant hazards consideration is involved with the proposed generic change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change provides a short Completion Time to restore an inoperable system for conditions under which the existing Technical Specifications require a plant shutdown to begin within one hour in accordance with Limiting Condition for Operation (LCO) 3.0.3. Entering into Technical Specification Actions is not an initiator of any accident previously evaluated. As a result, the probability of an accident previously evaluated is not significantly increased. The consequences of any accident previously evaluated that may occur during the proposed Completion Times are no different from the consequences of the same accident during the existing one hour allowance. As a result, the consequences of any accident previously evaluated are not significantly increased.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   No new or different accidents result from utilizing the proposed change. The changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. In addition, the changes do not impose any new or different requirements. The changes do not alter assumptions made in the safety analysis.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No.

The proposed change increase the time the plant may operate without the ability to perform an assumed safety function. The analyses in WCAP-16125, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent plant Shutdown," Revision 0, September 2003, demonstrated that there is an acceptably small increase in risk due to a limited period of continued operation in these conditions and that this risk is balanced by avoiding the risks associated with a plant shutdown. As a result, the change to the margin of safety provided by requiring a plant shutdown within one hour is not significant.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, the TSTF concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

Regulatory requirements are not specific regarding the actions to be followed when Technical Specification requirements are not met. Therefore, the proposed change to the Technical Specification Actions do not affect regulatory requirements. In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the approval of the proposed change will not be inimical to the common defense and security or to the health and safety of the public.

6.0 Environmental Consideration

A review has determined that the proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

7.0 References

1. WCAP-16125, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent plant Shutdown," Revision 0, September 2003.

2. CE NPSD-1186, "Technical Justification for the Risk-Informed Modification to Selected Required Action End States for CEOG PWRs," CE Owner's Group, April 2000.

3. TSTF-422, "Change in Technical Specifications End States (CE NPSD-1186)."

4. Letter from William D. Beckner (NRC) to Gordon Bischoff (Westinghouse) dated July 9, 2004, "Safety Evaluation Of WCAP-16125-NP, Rev. 0, "Justification For Risk-Informed Modifications To Selected Technical Specifications For Conditions Leading To Exigent Plant Shutdowns" TAC No. MBb1257."

LCO 3.4.9, PRESSURIZER

INSERT 1

C.1

If all [required] groups of pressurizer heaters are inoperable, restoration of at least one group to OPERABLE status is required within 24 hours. If all [required] groups of pressurizer heaters are inoperable, the pressurizer heaters will not be available to help maintain subcooling in the RCS loops during a natural circulation cooldown following a loss of offsite power. The inoperability of all [required] pressurizer heaters during the 24 hour Completion Time has been shown to not have a significant effect on plant transient response or plant risk (Ref. 2).

INSERT 2

2. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.9 Pressurizer

LCO 3.4.9 The pressurizer shall be OPERABLE with:

a. Pressurizer water level < [60]% and

b. [Two groups of] pressurizer heaters OPERABLE with the capacity [of each group] ≥ [150] kW [and capable of being powered from an emergency power supply].

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Pressurizer water level not within limit.	A.1 Be in MODE 3 with reactor trip breakers open. AND A.2 Be in MODE 4.	6 hours [12] hours
B. One [required] group of pressurizer heaters inoperable.	B.1 Restore [required] group of pressurizer heaters to OPERABLE status.	72 hours
~~C.~~ Required Action and associated Completion Time of Condition B not met. (D) (or C)	~~C.~~1 Be in MODE 3. AND (D) ~~C.~~2 Be in MODE 4.	6 hours [12] hours
C. All [required] groups of pressurizer heaters inoperable.	C.1 Restore all but one group of pressurizer heaters to OPERABLE status.	24 hours

BASES

ACTIONS (continued)

Six hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging plant systems. Further pressure and temperature reduction to MODE 4 brings the plant to a MODE where the LCO is not applicable. The 12 hour time to reach the nonapplicable MODE is reasonable based on operating experience for that evolution.

B.1

If one [required] group of pressurizer heaters is inoperable, restoration is required within 72 hours. The Completion Time of 72 hours is reasonable considering that a demand caused by loss of offsite power would be unlikely in this period. Pressure control may be maintained during this time using normal station powered heaters.

Insert 1 → D → C.1 and C.2 or more

If one [required] group of pressurizer heaters is inoperable and cannot be restored within the allowed Completion Time of Required Action B.1, 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 MODE 3 within 6 hours and to MODE 4 within [12] hours. The Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging safety systems. Similarly, the Completion Time of [12] hours is reasonable, based on operating experience, to reach MODE 4 from full power in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.4.9.1

This Surveillance ensures that during steady state operation, pressurizer water level is maintained below the nominal upper limit to provide a minimum space for a steam bubble. The Surveillance is performed by observing the indicated level. The 12 hour interval has been shown by operating practice to be sufficient to regularly assess the level for any deviation and verify that operation is within safety analyses assumptions. Alarms are also available for early detection of abnormal level indications.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.4.9.2

----------REVIEWER'S NOTE----------
The frequency for performing pressurizer heater capacity testing shall be either 18 months or 92 days, depending on whether or not the plant has dedicated safety-related heaters. For dedicated safety-related heaters, which do not normally operate, 92 days is applied. For non-dedicated safety-related heaters, which normally operate, 18 months is applied.

The Surveillance is satisfied when the power supplies are demonstrated to be capable of producing the minimum power and the associated pressurizer heaters are verified to be at their design rating. (This may be done by testing the power supply output and by performing an electrical check on heater element continuity and resistance.) The Frequency of [18] months is considered adequate to detect heater degradation and has been shown by operating experience to be acceptable.

[SR 3.4.9.3

This SR is not applicable if the heaters are permanently powered by 1E power supplies.

This Surveillance demonstrates that the heaters can be manually transferred to and energized by emergency power supplies. The Frequency of [18] months is based on a typical fuel cycle and industry accepted practice. This is consistent with similar verifications of emergency power.]

REFERENCES

1. NUREG-0737, November 1980.

Insert 2

LCO 3.4.11, PRESSURIZER PORVS

INSERT 1

(new paragraph)

F.1 & F.2

If two PORVs are inoperable and not are capable of being manually cycled and are not

INSERT 2

3. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
	C.2	Restore block valve to OPERABLE status.	72 hours
D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1	Be in MODE 3.	6 hours
	AND		
	D.2	Be in MODE 4.	[12] hours
E. Two PORVs inoperable and not capable of being manually cycled.	E.1	Close associated block valves.	1 hour
	AND		
	E.2	Remove power from associated block valves.	1 hour
	AND		8 hours
F. Required Action and associated Completion Time of Condition E not met.	E.3	Be in MODE 3.	6 hours
	AND		
	E.4	Be in MODE 4.	[12] hours
G. F. Two block valves inoperable.	F.1	Restore at least one block valve to OPERABLE status.	2 hours
H. G. Required Action and associated Completion Time of Condition F not met.	G.1	Be in MODE 3.	6 hours
	AND		
	G.2	Be in MODE 4.	[12] hours

E.3 Restore at least one PORV to OPERABLE status.

BASES

ACTIONS (continued)

valve is based upon the Completion Time for restoring an inoperable PORV in Condition B since the PORVs are not capable of automatically mitigating an overpressure event when placed in manual control. If the block valve is restored within the Completion Time of 72 hours, the power will be restored and the PORV restored to OPERABLE status.

D.1 and D.2

If the Required Action cannot be met within the associated Completion Time, the plant must be brought to a MODE in which the requirement does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 12 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.

E.1, E.2, E.3, and E.4 (3) (within 1 hour)

If more than one PORV is inoperable and not capable of being manually cycled, it is necessary to either restore at least one valve within the Completion Time of 1 hour or isolate the flow path by closing and removing the power to the associated block valves. The Completion Time of 1 hour (8 hours and 5) is reasonable based on the small potential for challenges to the system during this time and provides the operator time to correct the situation (are) (Ref. 3). If one PORV is restored and one PORV remains inoperable, then the plant will be in Condition B with the time clock started at the original declaration of having two PORVs inoperable. (If no PORVs) are restored within the Completion Time, then the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 12 hours. The Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging plant systems. Similarly, the Completion Time of 12 hours to reach MODE 4 is reasonable, considering that a plant can cool down within that time frame on one safety system train. In MODES 4 and 5, maintaining PORV OPERABILITY may be required. See LCO 3.4.12.

Insert 1

BASES

ACTIONS (continued)

~~E~~.1

If two block valves are inoperable, it is necessary to restore at least one block valve to OPERABLE status within 2 hours. The Completion Time is reasonable based on the small potential for challenges to the system during this time and provides the operator time to correct the situation.

~~G~~.1 and ~~G~~.2

If the Required Actions and associated Completion Times of Condition ~~E~~ or ~~F~~ are not met, then the plant must be brought to a MODE in which the LCO does not apply. The plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 12 hours. The Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging safety systems. Similarly, the Completion Time of 12 hours to reach MODE 4 is reasonable considering that a plant can cool down within that time frame on one safety system train. In MODES 4 and 5, maintaining PORV OPERABILITY may be required. See LCO 3.4.12.

SURVEILLANCE REQUIREMENTS

SR 3.4.11.1

Block valve cycling verifies that it can be closed if necessary. The basis for the Frequency of [92 days] is ASME XI (Ref. 3).

This SR is modified by two Notes. Note 1 modifies this SR by stating that this SR is not required to be performed with the block valve closed in accordance with the Required Actions of this LCO. Opening the block valve in this condition increases the risk of an unisolable leak from the RCS since the PORV is already inoperable. Note 2 modifies this SR to allow entry into and operation in MODE 3 prior to performing the SR. This allows the test to be performed in MODE 3 under operating temperature and pressure conditions, prior to entering MODE 1 or 2. [In accordance with Reference 4, administrative controls require this test be performed in MODE 3 or 4 to adequately simulate operating temperature and pressure effects on PORV operation.]

SR 3.4.11.2

SR 3.4.11.2 requires complete cycling of each PORV. PORV cycling demonstrates its function. The Frequency of [18] months is based on a typical refueling cycle and industry accepted practice.

BASES

SURVEILLANCE REQUIREMENTS (continued)

The Note modifies this SR to allow entry into and operation in MODE 3 prior to performing the SR. This allows the test to be performed in MODE 3 under operating temperature and pressure conditions, prior to entering MODE 1 or 2. [In accordance with Reference 4, administrative controls require this test be performed in MODE 3 or 4 to adequately simulate operating temperature and pressure effects on PORV operation.]

[SR 3.4.11.3

Operating the solenoid air control valves and check valves on the air accumulators ensures the PORV control system actuates properly when called upon. The Frequency of [18] months is based on a typical refueling cycle and the Frequency of the other surveillances used to demonstrate PORV OPERABILITY.]

[SR 3.4.11.4

This Surveillance is not required for plants with permanent 1E power supplies to the valves. The test demonstrates that emergency power can be provided and is performed by transferring power from the normal supply to the emergency supply and cycling the valves. The Frequency of [18] months is based on a typical refueling cycle and industry accepted practice.]

REFERENCES

1. NUREG-0737, Paragraph II, G.I, November 1980.

Insert 2 → 2. Inspection and Enforcement (IE) Bulletin 79-05B, April 21, 1979.

(4) → 3. ASME, Boiler and Pressure Vessel Code, Section XI.

(5) → [4. Generic Letter 90-06, "Resolution of Generic Issue 70, 'Power-Operated Relief Valve and Block Valve Reliability,' and Generic Issue 94, 'Additional Low-Temperature Overpressure for Light-Water Reactors,' Pursuant to 10 CFR 50.54(f)," June 25, 1990.]

LCO 3.5.1, SITS

INSERT 1

(new paragraph)

C.1

If more than one SIT is inoperable, the unit is in a condition outside the accident analysis. However, Reference 7 demonstrates that the 24 hour Completion Time is appropriate because of the small probability of an event requiring the SITs and the availability of other equipment, such as the HPSI and LPSI systems.

INSERT 2

7. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.1 Safety Injection Tanks (SITs)

LCO 3.5.1 [Four] SITs shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,
MODE 3 with pressurizer pressure ≥ [700] psia.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SIT inoperable due to boron concentration not within limits. OR One SIT inoperable due to the inability to verify level or pressure.	A.1 Restore SIT to OPERABLE status.	72 hours
B. One SIT inoperable for reasons other than Condition A.	B.1 Restore SIT to OPERABLE status.	24 hours
D C. Required Action and associated Completion Time ~~of Condition A or B~~ not met.	C.1 Be in MODE 3. AND C.2 Reduce pressurizer pressure to < [700] psia.	6 hours 2 hours
C D. Two or more SITs inoperable.	D.1 Enter ~~LCO~~ 3.0.3.	~~Immediately~~

Restore all but one SIT to OPERABLE status.

24 hours

BASES

Inset 1

ACTIONS (continued)

D

C.1 and C.2 (a)

If the SIT cannot be restored to OPERABLE status within the associated 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 pressurizer pressure reduced to < 700 psia within 12 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.

D.1

If more than one SIT is inoperable, the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE REQUIREMENTS

SR 3.5.1.1

Verification every 12 hours that each SIT isolation valve is fully open, as indicated in the control room, ensures that SITs are available for injection and ensures timely discovery if a valve should be partially closed. If an isolation valve is not fully open, the rate of injection to the RCS would be reduced. Although a motor operated valve should not change position with power removed, a closed valve could result in not meeting accident analysis assumptions. A 12 hour Frequency is considered reasonable in view of other administrative controls that ensure the unlikelihood of a mispositioned isolation valve.

SR 3.5.1.2 and SR 3.5.1.3

SIT borated water volume and nitrogen cover pressure should be verified to be within specified limits every 12 hours in order to ensure adequate injection during a LOCA. Due to the static design of the SITs, a 12 hour Frequency usually allows the operator sufficient time to identify changes before the limits are reached. Operating experience has shown this Frequency to be appropriate for early detection and correction of off normal trends.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.5.1.4

Thirty-one days is reasonable for verification to determine that each SIT's boron concentration is within the required limits, because the static design of the SITs limits the ways in which the concentration can be changed. The 31 day Frequency is adequate to identify changes that could occur from mechanisms such as stratification or inleakage. Sampling the affected SIT within 6 hours after a 1% volume increase will identify whether inleakage has caused a reduction in boron concentration to below the required limit. It is not necessary to verify boron concentration if the added water is from the RWT, because the water contained in the RWT is within the SIT boron concentration requirements. This is consistent with the recommendations of NUREG-1366 (Ref. 4).

SR 3.5.1.5

Verification every 31 days that power is removed from each SIT isolation valve operator when the pressurizer pressure is ≥ 2000 psia ensures that an active failure could not result in the undetected closure of an SIT motor operated isolation valve. If this were to occur, only two SITs would be available for injection, given a single failure coincident with a LOCA. Since installation and removal of power to the SIT isolation valve operators is conducted under administrative control, the 31 day Frequency was chosen to provide additional assurance that power is removed.

This SR allows power to be supplied to the motor operated isolation valves when RCS pressure is < 2000 psia, thus allowing operational flexibility by avoiding unnecessary delays to manipulate the breakers during unit startups or shutdowns.

REFERENCES

1. FSAR, Section [6.3].
2. 10 CFR 50.46.
3. FSAR, Chapter [15].
4. Draft NUREG-1366, February 1990.
5. 10 CFR 50 Appendix K.
6. CE NPSD-994, "CEOG Joint Applications Report for Safety Injection Tank AOT/STI Extension," May 1995.

Insert 2

3.5.2, ECCS - OPERATING

INSERT 1

B. Two LPSI subsystems inoperable.	B.1	Restore all but one subsystem to OPERABLE status.	24 hours
C. One HPSI subsystem inoperable.	C.1	Restore subsystem to OPERABLE status.	72 hours
D. Two HPSI subsystems inoperable.	B.1	Restore all but one subsystem to OPERABLE status.	4 hours

INSERT 2

B.1

If two LPSI subsystems are inoperable, at least one LPSI subsystem must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 4 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

C.1

With one HPSI subsystem inoperable, action must be taken to restore OPERABLE status within 72 hours. In this condition, the remaining OPERABLE HPSI subsystem is adequate to perform the heat removal function. However, the overall reliability is reduced because a single failure to the remaining HPSI subsystem could result in loss of ECCS function. A reliability analysis (Ref. 6) has shown that the impact with one full ECCS train inoperable is sufficiently small to justify continued operation for 72 hours.

D.1

If two HPSI subsystems are inoperable, at least one HPSI subsystem must be returned to OPERABLE status within 4 hours. The Completion Time is based Reference 4 which demonstrated that the 4 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 3

4. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.2 ECCS - Operating

LCO 3.5.2 Two ECCS trains shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,
MODE 3 with pressurizer pressure ≥ [1700] psia.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
----REVIEWER'S NOTE---- The adoption of this Condition is contingent upon implementation of a program to perform a contemporaneous assessment of the overall impact on safety of proposed plant configurations prior to performing and during performance of maintenance activities that remove equipment from service.		
A. One LPSI subsystem inoperable.	A.1 Restore subsystem to OPERABLE status.	7 days
B. One or more trains inoperable for reasons other than Condition A.	B.1 Restore train(s) to OPERABLE status.	72 hours
E C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours
	AND	
	C.2 Reduce pressurizer pressure to < [1700] psia.	12 hours

Insert 1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Less than 100% of the ECCS flow equivalent to a single OPERABLE train available.	D.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.2.1	[Verify the following valves are in the listed position with power to the valve operator removed [and key locked in position]. Valve Number / Position / Function [ ] / [ ] / [ ] [ ] / [ ] / [ ] [ ] / [ ] / [ ]	12 hours]
SR 3.5.2.2	Verify each ECCS 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 3.5.2.3	[Verify ECCS piping is full of water.	31 days]
SR 3.5.2.4	Verify each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.5.2.5	[Verify each charging pump develops a flow of ≥ [36] gpm at a discharge pressure of ≥ [2200] psig.	In accordance with the Inservice Testing Program]

BASES

APPLICABILITY

In MODES 1 and 2, and in MODE 3 with RCS pressure ≥ 1700 psia, the ECCS OPERABILITY requirements for the limiting Design Basis Accident (DBA) large break LOCA are based on full power operation. Although reduced power would not require the same level of performance, the accident analysis does not provide for reduced cooling requirements in the lower MODES. The HPSI pump performance is based on the small break LOCA, which establishes the pump performance curve and has less dependence on power. The charging pump performance requirements are based on a small break LOCA. The requirements of MODES 2 and 3, with RCS pressure ≥ 1700 psia, are bounded by the MODE 1 analysis.

The ECCS functional requirements of MODE 3, with RCS pressure < 1700 psia, and MODE 4 are described in LCO 3.5.3, "ECCS - Shutdown."

In MODES 5 and 6, unit conditions are such that the probability of an event requiring ECCS injection is extremely low. Core cooling requirements in MODE 5 are addressed by LCO 3.4.7, "RCS Loops - MODE 5, Loops Filled," and LCO 3.4.8, "RCS Loops - MODE 5, Loops Not Filled." MODE 6 core cooling requirements are addressed by LCO 3.9.4, "Shutdown Cooling (SDC) and Coolant Circulation - High Water Level," and LCO 3.9.5, "Shutdown Cooling (SDC) and Coolant Circulation - Low Water Level."

ACTIONS

A.1

With one LPSI subsystem inoperable, action must be taken to restore OPERABLE status within 7 days. In this condition, the remaining OPERABLE ECCS train is adequate to perform the heat removal function. However, the overall reliability is reduced because a single failure to the remaining LPSI subsystem could result in loss of ECCS function. The 7 day Completion Time is reasonable to perform corrective maintenance on the inoperable LPSI subsystem. The 7 day Completion Time is based on the findings of the deterministic and probabilistic analysis in Reference 6. Reference 6 concluded that extending the Completion Time to 7 days for an inoperable LPSI train provides plant operational flexibility while simultaneously reducing overall plant risk. This is because the risks incurred by having the LPSI train unavailable for a longer time at power will be substantially offset by the benefits associated with avoiding unnecessary plant transitions and by reducing risk during plant shutdown operations.

BASES

ACTIONS (continued)

Insert 2

B.1

If one or more trains are inoperable except for reasons other than Condition A (one LPSI subsystem inoperable) and at least 100% of the ECCS flow equivalent to a single OPERABLE ECCS train is available, the inoperable components must be returned to OPERABLE status within 72 hours. The 72 hour Completion Time is based on an NRC study (Ref. 4) using a reliability evaluation and is a reasonable amount of time to effect many repairs.

An ECCS train is inoperable if it is not capable of delivering the design flow to the RCS. The individual components are inoperable if they are not capable of performing their design function, or if supporting systems are not available.

The LCO requires the OPERABILITY of a number of independent subsystems. Due to the redundancy of trains and the diversity of subsystems, the inoperability of one component in a train does not render the ECCS incapable of performing its function. Neither does the inoperability of two different components, each in a different train, necessarily result in a loss of function for the ECCS. This allows increased flexibility in plant operations when components in opposite trains are inoperable.

An event accompanied by a loss of offsite power and the failure of an emergency DG can disable one ECCS train until power is restored. A reliability analysis (Ref. 4) has shown that the impact with one full ECCS train inoperable is sufficiently small to justify continued operation for 72 hours.

Reference 5 describes situations in which one component, such as a shutdown cooling total flow control valve, can disable both ECCS trains. With one or more components inoperable, such that 100% of the equivalent flow to a single OPERABLE ECCS train is not available, the facility is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be immediately entered.

BASES

ACTIONS (continued)

C.1 and C.2

If the inoperable train cannot be restored to OPERABLE status within the associated 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 pressurizer pressure reduced to < 1700 psia within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power in an orderly manner and without challenging unit systems.

D.1

Condition B is applicable with one or more trains inoperable. The allowed Completion Time is based on the assumption that at least 100% of the ECCS flow equivalent to a single OPERABLE ECCS train is available. With less than 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available, the facility is in a condition outside of the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE REQUIREMENTS

SR 3.5.2.1

Verification of proper valve position ensures that the flow path from the ECCS pumps to the RCS is maintained. Misalignment of these valves could render both ECCS trains inoperable. Securing these valves in position by removing power or by key locking the control in the correct position ensures that the valves cannot be inadvertently misaligned or change position as the result of an active failure. These valves are of the type described in Reference 6, which can disable the function of both ECCS trains and invalidate the accident analysis. A 12 hour Frequency is considered reasonable in view of other administrative controls ensuring that a mispositioned valve is an unlikely possibility.

SR 3.5.2.2

Verifying the correct alignment for manual, power operated, and automatic valves in the ECCS flow paths provides assurance that the proper flow paths will exist for ECCS operation. 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,

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.5.2.10

Periodic inspection of the containment sump ensures that it is unrestricted and stays in proper operating condition. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during an outage, on the need to have access to the location, and on the potential for unplanned transients if the Surveillance were performed with the reactor at power. This Frequency is sufficient to detect abnormal degradation and is confirmed by operating experience.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 35.

2. 10 CFR 50.46.

3. FSAR, Chapter [6].

Insert 3

5. NRC Memorandum to V. Stello, Jr., from R. L. Baer, "Recommended Interim Revisions to LCOs for ECCS Components," December 1, 1975.

6. IE Information Notice No. 87-01, January 6, 1987.

4. CE NPSD-995, "Low Pressure Safety Injection System AOT Extension," May 1995.

LCO 3.6.1, CONTAINMENT

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) and because the time spent in MODE 4 to perform the necessary repairs to restore the system to OPERABLE status will be short. 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.

INSERT 2

4. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

3.6 CONTAINMENT SYSTEMS

3.6.1 Containment (Atmospheric and Dual)

LCO 3.6.1 Containment shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Containment inoperable.	A.1 Restore containment to OPERABLE status.	1 hour (5) (8)
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 (12) 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
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	[Verify containment structural integrity in accordance with the Containment Tendon Surveillance Program.	In accordance with the Containment Tendon Surveillance Program]

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

8 hours 8 hour

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. (Ref. 4)

B.1 and B.2

Overall plant risk is minimized

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.

(4) (12) Insert 1

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. 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] [$\leq 0.75\ L_a$ for

BASES

SURVEILLANCE REQUIREMENTS (continued)

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.

----------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 consistent with the recommendations of Regulatory Guide 1.35 (Ref. 4).] (5)

REFERENCES

1. 10 CFR 50, Appendix J, Option [A][B].
2. FSAR, Section [ ].
3. FSAR, Section [ ]. (Insert 2)
4. (5) Regulatory Guide 1.35, Revision [1].

BASES

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) [, purge valves with resilient seals, and secondary bypass leakage (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.

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 refueling operations are addressed in LCO 3.9.3, "Containment Penetrations."

ACTIONS

A.1

8 hours 8 hour

In the event that containment is inoperable, it 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 OPERABLE 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.

(Ref. 4)

B.1 and B.2

Overall plant risk is minimized

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.

(4) (12)

Insert 1

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.1

Maintaining containment OPERABLE requires compliance with the visual examinations and leakage rate test requirements of the Containment Leakage Rate Testing Program. Failure to meet air lock and purge valve with resilient seal specific 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] [$\leq 0.75\ L_a$ 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 $\leq 1.0\ L_a$. At $\leq 1.0\ L_a$ 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.

----------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 consistent with recommendations of Regulatory Guide 1.35 (Ref. 4).] (5)

REFERENCES

1. 10 CFR 50, Appendix J, Option [A][B].
2. FSAR, Section [ ].
3. FSAR, Section [ ]. ← Insert 2
4. (5) Regulatory Guide 1.35, Revision [1].

LCO 3.6.6, CONTAINMENT SPRAY AND COOLING SYSTEMS

INSERT 1

C. Two containment spray trains inoperable.	C.1	Restore one containment spray train to OPERABLE status.	72 hours

INSERT 2

F. Two containment spray trains and two containment cooling trains inoperable.	F.1	Restore at least one containment spray train to OPERABLE status.	12 hours
	OR		
	F.2	Restore at least one containment cooling train to OPERABLE status.	12 hours

INSERT 3

C.1

With two required containment spray trains inoperable, one of the required containment spray trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition are capable of providing greater than 100% of the heat removal needs after an accident. However, the iodine removal function cannot be performed. The Completion Time is based Reference 7 which demonstrated that the 72 hour Completion Time is acceptable based on the small incremental risk associated with continued operation and takes 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.

INSERT 4

F.1 and F.2

With two required containment spray trains inoperable and two required containment cooling trains inoperable, one of the required inoperable trains must be restored to OPERABLE status within 12 hours. The Completion Time is based Reference 7 which demonstrated that the 12 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 5

7. WCAP-16125-NP, Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown, September 2003.

INSERT 6

F.1 and F.2

With two required containment spray trains inoperable and two required containment cooling trains inoperable, one of the inoperable trains must be restored to OPERABLE status within 12 hours. The Completion Time is based Reference 6 which demonstrated that the 12 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 7

6. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

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)

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

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	[7] days AND 14 days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days AND 14 days from discovery of failure to meet the LCO
D. One containment spray train and one containment cooling train inoperable.	D.1 Restore containment spray train to OPERABLE status. OR	72 hours

Insert 1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	D.2 Restore containment cooling train to OPERABLE status.	72 hours
E. Two containment cooling trains inoperable.	E.1 Restore one containment cooling train to OPERABLE status.	72 hours
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.	6 hours 36 hours
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 3.6.6A.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
SR 3.6.6A.2	Operate each containment cooling train fan unit for ≥ 15 minutes.	31 days

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.

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.

The 14 day portion of the Completion Time for Required Action A.1 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

B.1 and B.2

If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 84 hours. The allowed Completion Time of 6 hours is

BASES

ACTIONS (continued)

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.

B 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.

The 14 day portion of the Completion Time for Required Action C.1 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

Insert 3 →

D.1 and D.2

train

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.

BASES

ACTIONS (continued)

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.

Insert 4

G.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.

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.

BASES

SURVEILLANCE REQUIREMENTS (continued)

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.

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 Section XI of 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

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, Boiler and Pressure Vessel Code, Section XI.

Insert 5

(8)

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.6B.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
SR 3.6.6B.2	Operate each containment cooling train fan unit for ≥ 15 minutes.	31 days

BASES

ACTIONS (continued)

D.1 and D.2

With one required containment spray train inoperable and one of the required containment cooling trains inoperable, the inoperable containment spray train or the inoperable containment cooling train must be restored to OPERABLE status within 72 hours. The components in this degraded condition are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed based on the same reasons as those for Required Action C.1.

E.1

With two 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 are capable of providing greater than 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed based on the same reasons as those for Required Action C.1.

Insert 6 →

(G) → ~~F.1 and F.2~~ (G)

If any of the Required Actions and associated Completion Times 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.

~~G.1~~

~~With 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.~~

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6B.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 Section XI of 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.

SR 3.6.6B.6 and SR 3.6.6B.7

These SRs verify 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.

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 3.6.6B.8

This SR verifies 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 3.6.6B.6 and SR 3.6.6B.7, above, for further discussion of the basis for the [18] month Frequency.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.6B.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.

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, Sections [ ].
4. FSAR, Section [ ].
5. FSAR, Section [ ].
6. ASME, Boiler and Pressure Vessel Code, Section XI.

Inset 7

(7) → 6

LCO 3.6.8, SBEACS (DUAL))

INSERT 1

B.1

If two SBEACS trains are inoperable, at least one SBEACS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 4 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

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) and because the time spent in MODE 4 to perform the necessary repairs to restore the system to OPERABLE status will be short. 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.

INSERT 3

4. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

3.6 CONTAINMENT SYSTEMS

3.6.8 Shield Building Exhaust Air Cleanup System (SBEACS) (Dual)

LCO 3.6.8 Two SBEACS trains shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SBEACS train inoperable.	A.1 Restore train to OPERABLE status.	7 days
~~B~~. Required Action and Associated Completion Time not met.	~~B~~.1 Be in MODE 3. AND (C) ~~B~~.2 Be in MODE ~~3~~ (4)	6 hours (12) ~~36~~ hours
B. Two SBEACS trains inoperable.	B.1 Restore at least one SBEACS train to OPERABLE status.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.8.1	Operate each SBEACS train for [≥ 10 continuous hours with the heaters operating or (for systems without heaters) ≥ 15 minutes].	31 days
SR 3.6.8.2	Perform required SBEACS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.8.3	Verify each SBEACS train actuates on an actual or simulated actuation signal.	[18] months

BASES

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could lead to fission product release to containment that leaks to the shield building. The large break LOCA, on which this system's design is based, is a full power event. Less severe LOCAs and leakage still require the system to be OPERABLE throughout these MODES. The probability and severity of a LOCA decrease as core power and Reactor Coolant System pressure decrease. With the reactor shut down, the probability of release of radioactivity resulting from such an accident is low.

In MODES 5 and 6, the probability and consequences of a DBA are low due to the pressure and temperature limitations in these MODES. Under these conditions, the Filtration System is not required to be OPERABLE.

ACTIONS

A.1

With one SBEACS 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 the availability of the OPERABLE redundant SBEACS train and the low probability of a DBA occurring during this period.

Insert 1

C

B.1 and B.2

@ (CS)

Overall plant risk is minimized

If the SBEACS 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.

4

12

Insert 2

SURVEILLANCE REQUIREMENTS

SR 3.6.8.1

Operating each SBEACS 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

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.8.5

The SBEACS train flow rate is verified ≥ [ ] cfm to ensure that the flow rate is adequate to "pull down" the shield building pressure as required. This test also will verify the proper functioning of the fans, dampers, filters, absorbers, etc., when this SR is performed in conjunction with SR 3.6.11.4.

The [18] month on a STAGGERED TEST BASIS Frequency is consistent with the Regulatory Guide 1.52 (Ref. ~~4~~ 5) guidance.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 41.
2. FSAR, Section [ ].
3. FSAR, Section [ ].

Insert 2

5 ~~4~~. Regulatory Guide 1.52, Revision [2].

LCO 3.6.10, ICS (ATMOSPHERIC AND DUAL)

INSERT 1

B.1

If two ICS trains are inoperable, at least one ICS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 4 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

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) and because the time spent in MODE 4 to perform the necessary repairs to restore the system to OPERABLE status will be short. 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.

INSERT 3

4. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

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 ~~3~~.	6 hours ~~36~~ hours
B. [Two] ICS trains inoperable.	B.1 Restore at least one train to OPERABLE status.	24 hours

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

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.

Insert 1

C.1 and C.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.

Overall plant risk is minimized

12

Insert 2

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.

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.]

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 [ ].

Insert 3

LCO 3.7.11, CREACS

INSERT 1

C.1

---------- Reviewer's Note ----------
The 24 hour Completion Time is only applicable if it is less than the time to reach 5 REM operator dose from the radiation field associated with the main steam safety valves lifting due to a steam generator tube rupture. It also only applies if a plant specific analysis demonstrates that the toxic gas and chemical protection functions assumed in the plant's licensing basis can be performed for 24 hours with both CREACS trains inoperable.

If two CREACS trains are inoperable, at least one CREACS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 3 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 2

3. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

3.7 PLANT SYSTEMS

3.7.11 Control Room Emergency Air Cleanup System (CREACS)

LCO 3.7.11 Two CREACS trains shall be OPERABLE.

---NOTE---
The control room boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, 4, [5, and 6,]
During movement of [recently] irradiated fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREACS train inoperable.	A.1 Restore CREACS train to OPERABLE status.	7 days
B. Two CREACS trains inoperable due to inoperable control room boundary in MODE 1, 2, 3, or 4.	B.1 Restore control room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition A not met [in MODES 5 and 6, or] during movement of [recently] irradiated fuel assemblies.	E.1 ----------NOTE---------- Place in toxic gas protection mode if automatic transfer to toxic gas mode inoperable. ---------- Place OPERABLE CREACS train in emergency radiation protection mode.	Immediately
	OR	
	E.2 Suspend movement of [recently] irradiated fuel assemblies.	Immediately
F. Two CREACS trains inoperable [in MODES 5 and 6, or] during movement of [recently] irradiated fuel assemblies.	F.1 Suspend movement of [recently] irradiated fuel assemblies.	Immediately
C F. Two CREACS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	C.1 ~~Enter LCO 3.0.3.~~ Restore at least one CREACS train to OPERABLE status.	~~Immediately~~ 24 hours

move to previous page

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.11.1	Operate each CREACS train for [≥ 10 continuous hours with heaters operating or (for systems without heaters) ≥ 15 minutes].	31 days

BASES

ACTIONS

A.1

With one CREACS train inoperable, action must be taken to restore OPERABLE status within 7 days. In this Condition, the remaining OPERABLE CREACS subsystem is adequate to perform control room radiation protection function. However, the overall reliability is reduced because a single failure in the OPERABLE CREACS train could result in loss of CREACS function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and the ability of the remaining train to provide the required capability.

B.1

----------REVIEWER'S NOTE----------
Adoption of Condition B is dependent on a commitment from the licensee to have written procedures available describing compensatory measures to be taken in the event of an intentional or unintentional entry into Condition B.

If the control room boundary is inoperable in MODES 1, 2, 3, and 4, the CREACS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE control room boundary within 24 hours. During the period that the control room boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of compensatory measures. The 24 hour Completion Time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the control room boundary.

Insert 1 → C.1 and C.2

train(s)

If the inoperable CREACS or control room boundary cannot be restored to OPERABLE status within the associated Completion Time in MODE 1, 2, 3, or 4, the unit must be placed in a MODE that minimizes the accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

BASES

ACTIONS (continued)

E

D.1 and D.2

Required Action D.1 is modified by a Note indicating to place the system in the emergency radiation protection mode if the automatic transfer to emergency mode is inoperable.

In MODE 5 or 6, or during movement of [recently] irradiated fuel assemblies, if Required Action A.1 cannot be completed within the required Completion Time, the OPERABLE CREACS train must be immediately placed in the emergency mode of operation. This action ensures that the remaining train is OPERABLE, that no failures preventing automatic actuation will occur, and that any active failure will be readily detected.

E

An alternative to Required Action D.1 is to immediately suspend activities that could result in a release of radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes the accident risk. This does not preclude the movement of fuel assemblies to a safe position.

F → E.1

When [in MODES 5 and 6, or] during movement of [recently] irradiated fuel assemblies, with two CREACS trains inoperable, action must be taken immediately to suspend activities that could result in a release of radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes the accident risk. This does not preclude the movement of fuel to a safe position.

F.1

If both CREACS trains are inoperable in MODE 1, 2, 3, or 4 for reasons other than an inoperable control room boundary (i.e., Condition B), the CREACS may not be capable of performing the intended function and the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.11.1

Standby systems should be checked periodically to ensure that they function properly. Since the environment and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system.

Monthly heater operations dry out any moisture accumulated in the charcoal from humidity in the ambient air. [Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system.] The 31 day Frequency is based on the known reliability of the equipment, and the two train redundancy available.

SR 3.7.11.2

This SR verifies that the required CREACS 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].

SR 3.7.11.3

This SR verifies each CREACS train starts and operates on an actual or simulated actuation signal. The Frequency of [18] months is consistent with that specified in Reference 3. (4)

SR 3.7.11.4

This SR verifies the integrity of the control room enclosure and the assumed inleakage rates of potentially contaminated air. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify proper function of the CREACS. During the emergency radiation state of the emergency mode of operation, the CREACS is designed to pressurize the control room ≥ [0.125] inches water gauge positive pressure with respect to adjacent areas in order to prevent unfiltered inleakage. The CREACS is designed to maintain this positive pressure with one train at an emergency ventilation flow rate of [3000] cfm. The Frequency of [18] months on a STAGGERED TEST BASIS is consistent with the guidance provided in NUREG-0800, Section 6.4 (Ref. 4). (5)

BASES

REFERENCES

1. FSAR, Section [9.4].
2. FSAR, Chapter [15]. ← Insert 2
4. ~~3~~. Regulatory Guide 1.52, Rev. [2].
5. ~~4~~. NUREG-0800, Section 6.4, Rev. 2, July 1981.

LCO 3.7.12, CREATCS

INSERT 1

B.1

If two CREATCS trains are inoperable in MODES 1, 2, 3, or 4, at least one CREATCS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 2 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 2

2. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

3.7 PLANT SYSTEMS

3.7.12 Control Room Emergency Air Temperature Control System (CREATCS)

LCO 3.7.12 Two CREATCS trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, 4, [5, and 6,]
During movement of [recently] irradiated fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREATCS train inoperable.	A.1 Restore CREATCS train to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours
C. Required Action and associated Completion Time of Condition A not met [in MODE 5 or 6, or] during movement of [recently] irradiated fuel assemblies.	C.1 Place OPERABLE CREATCS train in operation. OR C.2 Suspend movement of [recently] irradiated fuel assemblies.	Immediately Immediately
D. Two CREATCS trains inoperable [in MODE 5 or 6, or] during movement of [recently] irradiated fuel assemblies.	D.1 Suspend movement of [recently] irradiated fuel assemblies.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two CREATCS trains inoperable in MODE 1, 2, 3, or 4.	E.1 Enter LCO 3.0.3.	Immediately
B	B.1 Restore at least one CREATCS train to OPERABLE status.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	Verify each CREATCS train has the capability to remove the assumed heat load.	[18] months

BASES

APPLICABILITY

In MODES 1, 2, 3, 4, [5, and 6,] and during movement of [recently] irradiated fuel assemblies [(i.e., fuel that has occupied part of a critical reactor core within the previous [X] days)], the CREATCS must be OPERABLE to ensure that the control room temperature will not exceed equipment OPERABILITY requirements following isolation of the control room.

In MODES 5 and 6, CREATCS may not be required for those facilities which do not require automatic control room isolation.

ACTIONS

A.1

With one CREATCS train inoperable, action must be taken to restore OPERABLE status within 30 days. In this Condition, the remaining OPERABLE CREATCS train is adequate to maintain the control room temperature within limits. The 30 day Completion Time is reasonable, based on the low probability of an event occurring requiring control room isolation, consideration that the remaining train can provide the required capabilities, and the alternate safety or nonsafety related cooling means that are available.

Insert 1 →

C ~~B~~.1 and ~~B~~.2

In MODE 1, 2, 3, or 4, when one or more CREATCS trains Required Action A.1 cannot be restored completed within the required Completion Time, the unit must be placed in a MODE that minimizes the accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

~~C~~.1 and ~~C~~.2 D

In MODE 5 or 6, or during movement of [recently] irradiated fuel assemblies, when Required Action A.1 cannot be completed within the required Completion Time, the OPERABLE CREATCS train must be placed in operation immediately. This action ensures that the remaining train is OPERABLE, that no failures preventing automatic actuation will occur, and that any active failure will be readily detected.

D

An alternative to Required Action ~~C~~.1 is to immediately suspend activities that could result in a release of radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes the accident risk. This does not preclude the movement of fuel assemblies to a safe position.

BASES

ACTIONS (continued)

~~D.1~~ E

In [MODE 5 or 6, or] during movement of [recently] irradiated fuel assemblies, with two CREATCS trains inoperable, action must be taken immediately to suspend activities that could result in a release of radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes the accident risk. This does not preclude the movement of fuel to a safe position.

E.1

If both CREATCS trains are inoperable in MODE 1, 2, 3, or 4, the CREATCS may not be capable of performing the intended function and the unit is in a condition outside the accident analysis. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE REQUIREMENTS

SR 3.7.12.1

This SR verifies that the heat removal capability of the system is sufficient to meet design requirements. This SR consists of a combination of testing and calculations. An [18] month Frequency is appropriate, since significant degradation of the CREATCS is slow and is not expected over this time period.

REFERENCES

1. FSAR, Section [6.4].

Insert 2

LCO 3.7.13, ECCS PREACS

INSERT 1

C. Two ECCS PREACS trains inoperable.	C.1	Restore one ECCS PREACS train to OPERABLE status.	24 hours

INSERT 2

C.1

If two ECCS PREACS trains are inoperable, at least one ECCS PREACS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 5 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 3

5. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

3.7 PLANT SYSTEMS

3.7.13 Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System (PREACS)

LCO 3.7.13 Two ECCS PREACS trains shall be OPERABLE.

---NOTE---
The ECCS pump room boundary may be opened intermittently under administrative control.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ECCS PREACS train inoperable.	A.1 Restore ECCS PREACS train to OPERABLE status.	7 days
B. Two ECCS PREACS trains inoperable due to inoperable ECCS pump room boundary.	B.1 Restore ECCS pump room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours

BASES

ACTIONS (continued)

If the ECCS pump room boundary is inoperable, the ECCS PREACS trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE ECCS pump room boundary within 24 hours. During the period that the ECCS pump room boundary is inoperable, appropriate compensatory measures [consistent with the intent, as applicable, of GDC 19, 60, 64 and 10 CFR Part 100] should be utilized to protect plant personnel from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of compensatory measures. The 24 hour Completion Time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the ECCS pump room boundary.

Insert 2

D ¢.1 and ¢.2

CSJ

If the ECCS PREACS train or ECCS pump room boundary cannot be restored to OPERABLE status within the associated Completion Time, the unit must be in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.13.1

Standby systems should be checked periodically to ensure that they function properly. Since the environment and normal operating conditions on this system are not severe, testing each train once a month provides an adequate check on this system. Monthly heater operations dry out any moisture that may have accumulated in the charcoal from humidity in the ambient air. [Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system.] The 31 day Frequency is based on the known reliability of equipment, and the two train redundancy available.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.13.2

This SR verifies that the required ECCS PREACS 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].

SR 3.7.13.3

This SR verifies that each ECCS PREACS train starts and operates on an actual or simulated actuation signal. The [18] month Frequency is consistent with that specified in Regulatory Guide 1.52 (Ref. 4).

SR 3.7.13.4

This SR verifies the integrity of the ECCS pump room enclosure. The ability of the ECCS pump room to maintain a negative pressure, with respect to potentially uncontaminated adjacent areas, is periodically tested to verify proper function of the ECCS PREACS. During the post accident mode of operation, the ECCS PREACS is designed to maintain a slight negative pressure in the ECCS pump room with respect to adjacent areas to prevent unfiltered LEAKAGE. The ECCS PREACS is designed to maintain this negative pressure at a flow rate of ≤ [20,000] cfm from the ECCS pump room. The Frequency of [18] months is consistent with the guidance provided in the NUREG-0800, Section 6.5.1 (Ref. 6).

This test is conducted with the tests for filter penetration; thus, an [18] month Frequency, on a STAGGERED TEST BASIS is consistent with other filtration SRs.

[SR 3.7.13.5

Operating the ECCS PREACS filter bypass damper is necessary to ensure that the system functions properly. The OPERABILITY of the bypass damper is verified if it can be closed. An [18] month Frequency is consistent with that specified in Reference 4.]

BASES

REFERENCES

1. FSAR, Section [6.5.1].
2. FSAR, Section [9.4.5].
3. FSAR, Section [15.6.5].
4. Regulatory Guide 1.52, Rev. [2].
5. 10 CFR 100.11.
6. ~~7~~ 8. NUREG-0800, Section 6.5.1, Rev. 2, July 1981.

Insert 2

LCO 3.7.15, PREACS

INSERT 1

C. Two PREACS trains inoperable.	C.1	Restore one PREACS train to OPERABLE status.	24 hours

INSERT 2

C.1

If two PREACS trains are inoperable, at least one PREACS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 5 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 3

5. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

3.7 PLANT SYSTEMS

3.7.15 Penetration Room Exhaust Air Cleanup System (PREACS)

LCO 3.7.15 Two PREACS trains shall be OPERABLE.

---NOTE---
The penetration room boundary may be opened intermittently under administrative control.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One PREACS train inoperable.	A.1 Restore PREACS train to OPERABLE status.	7 days
B. Two PREACS trains inoperable due to inoperable penetration room boundary.	B.1 Restore penetration room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.15.1	Operate each PREACS train for [≥ 10 continuous hours with the heater operating or (for systems without heaters) ≥ 15 minutes].	31 days

BASES

ACTIONS (continued)

C.1 and C.2

If the inoperable PREACS train or penetration room boundary cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.15.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system.

Monthly heater operation dries out any moisture that may have accumulated in the charcoal as a result of humidity in the ambient air. [Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system.] The 31 day Frequency is based on the known reliability of the equipment and the two train redundancy available.

SR 3.7.15.2

This SR verifies the performance of PREACS filter testing in accordance with the [Ventilation Filter Testing Program (VFTP)]. The [VFTP] includes testing the performance of the HEPA filter, 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].

[SR 3.7.15.3

This SR verifies that each PREACS train starts and operates on an actual or simulated actuation signal. The [18] month Frequency is consistent with that specified in Reference 4.]

BASES

SURVEILLANCE REQUIREMENTS (continued)

[SR 3.7.15.4

This SR verifies the integrity of the penetration room enclosure. The ability of the penetration room to maintain negative pressure, with respect to potentially uncontaminated adjacent areas, is periodically tested to verify proper function of the PREACS. During the post accident mode of operation, PREACS is designed to maintain a slightly negative pressure at a flow rate of ≤ [3000] cfm in the penetration room with respect to adjacent areas to prevent unfiltered LEAKAGE. The Frequency of [18] months is consistent with the guidance provided in NUREG-0800, Section 6.5.1 (Ref. 6).]

[The minimum system flow rate maintains a slight negative pressure in the penetration room area and provides sufficient air velocity to transport particulate contaminants, assuming only one filter train is operating.

The number of filter elements is selected to limit the flow rate through any individual element to about [1000] cfm. This may vary based on filter housing geometry. The maximum limit ensures that flow through, and pressure drop across, each filter element is not excessive.

The number and depth of the adsorber elements ensures that, at the maximum flow rate, the residence time of the air stream in the charcoal bed achieves the desired adsorption rate. At least a [0.125] second residence time is necessary for an assumed [99]% efficiency.

The filters have a certain pressure drop at the design flow rate when clean. The magnitude of the pressure drop indicates acceptable performance, and is based on manufacturer's recommendations for the filter and adsorber elements at the design flow rate. An increase in pressure drop or decrease in flow indicates that the filter is being loaded or is indicative of other problems with the system.

This test is conducted with the tests for filter penetration; thus, an [18] month Frequency on a STAGGERED TEST BASIS consistent with other filtration SRs.]

[SR 3.7.15.5

Operating the PREACS filter bypass damper is necessary to ensure that the system functions properly. The OPERABILITY of the PREACS filter bypass damper is verified if it can be closed. An [18] month Frequency is consistent with that specified in Reference 4.]

BASES

REFERENCES

1. FSAR, Section [6.5.1].
2. FSAR, Section [9.4.5].
3. FSAR, Section [15.6.5].
4. Regulatory Guide 1.52 Rev. [2].
5. 10 CFR 100.11.
6. NUREG-0800, Section 6.5.1.

Insert 2

From: Eva Brown
To: Architzel, Ralph; Bobiak, Jennifer; Borchardt, Richard; Calvo, Jose; Carpenter, Cynthia; Concepcion-Robles, Milton; Cupidon, Les; Dyer, Jim; Hausman, George; Hodge, C. Vernon; Jenkins, Ronaldo; Jones, Steve; Klett, Audrey; Koshy, Thomas; Merriweather, Norman; Morris, George; O'Hara, Timothy; Presby, Peter; Sanchez, Alfred A.; Sheron, Brian; Taylor, Robert
Date: 9/2/04 1:50PM
Subject: Re: crane at Turkey Pt

Fred,

I talked with the Regional section chief, Joel Munday, and I would like to clarify a few points in the 9:22 e-mail. The licensee is capable of electrically cross-tying the diesels to either unit and the fuel oil system should be able to be cross-tied as well. Also the crane was installed for the head outage and is not the permanent site crane. The crane is rated to 150 mph which should be enough for the expected winds onsite.

Eva Brown, Turkey Point PM
DLPM, LPD2A
x2315

>>> Brian Sheron Thursday, September 02, 2004 10:27:51 AM >>>
Has the licensee looked at adding additional supports, such as guy wires to better secure it?

>>> C. Vernon Hodge 09/02/04 09:22AM >>>
This information is being communicated to the NRR Executive Team and the email groups for load handling and electrical distribution systems.

At the Region II projects call today, 02 Sep 04, it was learned that all the Florida plants are prepared for the impending hurricane Frances but that there is a problem at Turkey Pt. A permanently erected crane for lifting a reactor head can withstand no more than 115 mph sustained winds. Were it to fall, it would damage safety-related systems, depending on the direction in which it falls. It could damage edg 3 or 4 or the respective fuel tanks. These systems cannot be cross-tied, so only one system would be removed from service.

CC: Boger, Bruce; Case, Michael; Costello, Frank; Foster, Jack; Gray, Kathy; Laura, Richard; Lee, Samuel; Markley, Anthony; McMurtray, Anthony; Munday, Joel; Petrone, Charles; Reis, Terrence; Rini, Brett; Sanchez, Alfred A.; Telson, Ross

LCO 3.4.9, PRESSURIZER

INSERT 1

C.1

If all [required] groups of pressurizer heaters are inoperable, restoration of at least one group to OPERABLE status is required within 24 hours. If all [required] groups of pressurizer heaters are inoperable, the pressurizer heaters will not be available to help maintain subcooling in the RCS loops during a natural circulation cooldown following a loss of offsite power. The inoperability of all [required] pressurizer heaters during the 24 hour Completion Time has been shown to not have a significant effect on plant transient response or plant risk (Ref. 2).

INSERT 2

2. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

LCO 3.4.11, PRESSURIZER PORVS

INSERT 1

(new paragraph)

F.1 & F.2

If two PORVs are inoperable and not are capable of being manually cycled and are not

INSERT 2

3. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

LCO 3.5.1, SITS

INSERT 1

(new paragraph)

C.1

If more than one SIT is inoperable, the unit is in a condition outside the accident analysis. However, Reference 7 demonstrates that the 24 hour Completion Time is appropriate because of the small probability of an event requiring the SITs and the availability of other equipment, such as the HPSI and LPSI systems.

INSERT 2

7. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

3.5.2, ECCS - OPERATING

INSERT 1

B. Two LPSI subsystems inoperable.	B.1	Restore at least one LPSI subsystem to OPERABLE status.	24 hours
C. One HPSI subsystem inoperable.	C.1	Restore subsystem to OPERABLE status.	72 hours
D. Two HPSI subsystems inoperable.	B.1	Restore at least one HPSI subsystem to OPERABLE status.	4 hours

INSERT 2

B.1

If two LPSI subsystems are inoperable, at least one LPSI subsystem must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 4 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

C.1

With one HPSI subsystem inoperable, action must be taken to restore OPERABLE status within 72 hours. In this condition, the remaining OPERABLE HPSI subsystem is adequate to perform the heat removal function. However, the overall reliability is reduced because a single failure to the remaining HPSI subsystem could result in loss of ECCS function. A reliability analysis (Ref. 6) has shown that the impact with one full ECCS train inoperable is sufficiently small to justify continued operation for 72 hours.

D.1

If two HPSI subsystems are inoperable, at least one HPSI subsystem must be returned to OPERABLE status within 4 hours. The Completion Time is based Reference 4 which demonstrated that the 4 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 3

4. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

LCO 3.6.1, CONTAINMENT

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) and because the time spent in MODE 4 to perform the necessary repairs to restore the system to OPERABLE status will be short. 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.

INSERT 2

4. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

LCO 3.6.6, CONTAINMENT SPRAY AND COOLING SYSTEMS

INSERT 1

C. Two containment spray trains inoperable.	C.1	Restore at least one containment spray train to OPERABLE status.	72 hours

INSERT 2

F. Two containment spray trains and two containment cooling trains inoperable.	F.1	Restore at least one containment spray train to OPERABLE status.	12 hours
	OR		
	F.2	Restore at least one containment cooling train to OPERABLE status.	12 hours

INSERT 3

C.1

With two required containment spray trains inoperable, at least one of the required containment spray trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition are capable of providing greater than 100% of the heat removal needs after an accident. However, the iodine removal function cannot be performed. The Completion Time is based Reference 7 which demonstrated that the 72 hour Completion Time is acceptable based on the small incremental risk associated with continued operation and takes 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.

INSERT 4

F.1 and F.2

With two required containment spray trains inoperable and two required containment cooling trains inoperable, at least one of the required inoperable trains must be restored to OPERABLE status within 12 hours. The Completion Time is based Reference 7 which demonstrated that the 12 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 5

7. WCAP-16125-NP, Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown, September 2003.

INSERT 6

F.1 and F.2

With two required containment spray trains inoperable and two required containment cooling trains inoperable, at least one of the inoperable trains must be restored to OPERABLE status within 12 hours. The Completion Time is based Reference 6 which demonstrated that the 12 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 7

6. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

LCO 3.6.8, SBEACS (DUAL))

INSERT 1

B.1

If two SBEACS trains are inoperable, at least one SBEACS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 4 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

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) and because the time spent in MODE 4 to perform the necessary repairs to restore the system to OPERABLE status will be short. 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.

INSERT 3

4. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

LCO 3.6.10, ICS (ATMOSPHERIC AND DUAL)

INSERT 1

B.1

If two ICS trains are inoperable, at least one ICS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 4 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

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) and because the time spent in MODE 4 to perform the necessary repairs to restore the system to OPERABLE status will be short. 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.

INSERT 3

4. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

LCO 3.7.11, CREACS

INSERT 1

C.1

---------- Reviewer's Note ----------
The 24 hour Completion Time is only applicable if it is less than the time to reach 5 REM operator dose from the radiation field associated with the main steam safety valves lifting due to a steam generator tube rupture. It also only applies if a plant specific analysis demonstrates that the toxic gas and chemical protection functions assumed in the plant's licensing basis can be performed for 24 hours with both CREACS trains inoperable.

If two CREACS trains are inoperable, at least one CREACS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 3 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 2

3. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

LCO 3.7.12, CREATCS

INSERT 1

B.1

If two CREATCS trains are inoperable in MODES 1, 2, 3, or 4, at least one CREATCS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 2 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 2

2. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

LCO 3.7.13, ECCS PREACS

INSERT 1

C. Two ECCS PREACS trains inoperable for reasons other than Condition B.	C.1	Restore at least one ECCS PREACS train to OPERABLE status.	24 hours

INSERT 2

C.1

If two ECCS PREACS trains are inoperable for reasons other than Condition B, at least one ECCS PREACS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 5 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 3

5. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

LCO 3.7.15, PREACS

INSERT 1

C. Two PREACS trains inoperable for reasons other than Condition B.	C.1	Restore at least one PREACS train to OPERABLE status.	24 hours

INSERT 2

C.1

If two PREACS trains are inoperable for reasons other than Condition B, at least one PREACS train must be returned to OPERABLE status within 24 hours. The Completion Time is based Reference 5 which demonstrated that the 24 hour Completion Time is acceptable based on the small incremental risk associated with continued operation.

INSERT 3

5. WCAP-16125-NP, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent Plant Shutdown," Revision 0, September 2003.

1.0 Description

Topical Report WCAP-16125, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent plant Shutdown," (Ref. 1) justifies modifications to various Technical Specification (TS) Action Statements for conditions that result in a loss of safety function related to a system or component included within the scope of the plant TSs. It revises the current Required Actions from either a default or explicit LCO 3.0.3 entry to a risk-informed action based on the system's risk significance. In most instances, a Completion Time (CT) of 24 hours is justified. WCAP116125 was approved by the NRC on July 9, 2004.

The Topical Report and the Traveler implement Risk Informed Technical Specification Task Force (RITSTF) Initiatives 6b, "Provide Conditions in the LCOs for Those Levels of Degradation Where No Condition Currently Exists to Preclude Entry Into LCO 3.0.3" and 6c, "Provide Specific Times in the LCO For Those Conditions That Require Entry Into LCO 3.0.3 Immediately."

2.0 Proposed Change

The Traveler revises the following Specifications in NUREG-1432 to preclude immediate entry into LCO 3.0.3:

1. TS 3.4.9, Pressurizer, for the condition of the required pressurizer heaters inoperable,
2. TS 3.4.11, Pressurizer PORVs, for the condition of two inoperable PORVs that cannot be manually cycled,
3. TS 3.5.1, Safety Injection Tanks (SITs), for the condition of two or more SITs inoperable,
4. TS 3.5.2, Emergency Core Cooling System (ECCS) - Operating, for the conditions of two Low Pressure Safety Injection (LPSI) trains inoperable and for two High Pressure Safety Injection (HPSI) trains inoperable,
5. TS 3.6.1, Containment, for the condition of an inoperable containment,
6. TS 3.6.6, Containment Spray and Cooling Systems, for the conditions of two containment spray trains inoperable and for two containment spray and two containment cooler trains inoperable,
7. TS 3.6.8, Shield Building Exhaust Air Cleanup System (SPEACS), for the condition of two SBEACS trains inoperable,
8. TS 3.6.10, Iodine Cleanup System (ICS), for the condition of two ICS trains inoperable,
9. TS 3.7.11, Control Room Emergency Air Cleanup System (CREACS), for the condition of two CREACS trains inoperable in Modes 1, 2, 3, and 4,
10. TS 3.7.12, Control Room Emergency Air Temperature Control System (CREATCS), for the condition of two CREATCS trains inoperable in Modes 1, 2, 3, and 4,
11. TS 3.7.13, ECCS Penetration Room Exhaust Air Cleanup System (PREACS), for the condition of two ECCS PREACS trains inoperable, and
12. TS 3.7.15, PREACS, for the condition of two PREACS trains inoperable.

The Bases are modified to reflect the changes to the Specifications.

3.0 Background

In response to the Nuclear Regulatory Commission (NRC's) initiative to improve plant safety by developing risk-informed TSs, the Industry has undertaken a program for defining and obtaining risk-informed TS modifications. WCAP-16125 provides technical justification for the modification of various TSs to define and/or modify Actions to extend the time required to initiate a plant shutdown from 1 hour in accordance with LCO 3.0.3 to a risk-informed time varying from 4 hours to 72 hours. In addition, the report proposes the modification of some of the TS Actions to allow a Mode 4 vice Mode 5 end state when the Required Actions and associated Completion Times cannot be met.

The intent of the proposed modifications to the plant TS is to enhance overall plant safety by:

(a) Avoiding unnecessary plant shutdowns.

(b) Minimizing plant transitions and associated transition and realignment risks.

(c) Providing for increased flexibility in scheduling and performing maintenance and surveillance activities.

(d) Providing explicit guidance where none currently exists.

4.0 Technical Analysis

Topical Report WCAP-16125 (Reference 1) provides a detailed technical analysis of the justification for revising the TS Actions to allow continued operation for a finite period of time when system or function is unavailable. WCAP-16125 was approved by the NRC on July 9, 2004. The justification considered both deterministic and risk-informed evaluations and compared the results to the relevant regulatory guidance. That justification will not be repeated here. This analysis will focus on the proposed changes to the TS and will highlight minor differences between the TS changes described in the Topical Report and the proposed changes in this Traveler.

In addition to proposing changes to the TS Actions to preclude entry into LCO 3.0.3, the Topical Report in some cases proposed changes to the TS "end states," i.e., the final Mode or other specified Condition specified in the Required Actions to which the plant must be brought if the LCO is not met. Several of these end state changes were also proposed in TSTF-422 (Reference 3). As described below, those end state changes proposed in TSTF-422 are not repeated in this Traveler. Those end state changes which were not proposed in TSTF-422 are included in this Traveler.

The Topical Report proposes changes to plant TS on Boration Systems. This system does not appear in the Improved Standard Technical Specifications and, therefore, the proposed changes do not appear in this Traveler.

TS 3.4.9, Pressurizer

TS 3.4.9 does not contain a Condition for all [required] groups of pressurizer heaters inoperable. As a result, this condition would require immediate entry into LCO 3.0.3. A new Condition is being added for all [required] groups of pressurizer heaters inoperable which requires restoration of all but one pressurizer heater to OPERABLE status within 24 hours.

TS 3.4.11, Pressurizer PORVs

TS 3.4.11, Condition E, states that with two PORVs inoperable and not capable of being manually cycled, close and remove power from the associated block valves within 1 hour and be in Mode 3 in 6 hours and Mode 4 in [12] hours. Condition E is modified to add a new Required Action to restore at least one PORV to OPERABLE status within 8 hours. A new Condition F is added which applies if the Required Actions and associated Completion Time of Condition E is not met. Condition F requires being in Mode 3 in 6 hours and Mode 4 in [12] hours. Condition F, now Condition G, is modified to allow 8 hours instead of 2 hours to restore one block valve to OPERABLE status when both block valves are inoperable. Subsequent Actions are renumbered.

The Topical Report refers to "PORVs that are not expected to be isolable following a demand." This is equivalent to the TS condition of "not capable of being manually cycled."

The Topical Report states that the changes to Condition E are not applicable to PORVs that are leaking, and that cannot be isolated by block valves, or to PORVs that are not expected to be isolable following a demand. The LCO Bases state that a leaking PORV is inoperable. Therefore, Actions B or E would apply. Both Actions require closing the associated block valve. If the block valve cannot be closed, an immediate plant shutdown is required. Therefore, the TS enforce the Topical Report conditions that in order to apply the revised Actions, a leaking PORV must be isolated by a block valve and that an inoperable PORV be isolable following a demand.

TS 3.5.1, Safety Injection Tanks (SITs)

TS 3.5.1, Condition D, states that with two or more SITs inoperable, enter LCO 3.0.3 immediately. Condition D is modified to allow 24 hours to restore all but one SIT to OPERABLE status. The order of Conditions C and D are reversed so that if the Required Actions and associated Completion Times of any Actions are not met, the plant must be in Mode 3 in 6 hours and pressurizer pressure must be reduced to < [700] psia within 2 hours in order to exit the Applicability of the TS.

TS 3.5.2, Emergency Core Cooling System (ECCS) – Operating

TS 3.5.2 requires two ECCS trains to be OPERABLE. The Bases define an ECCS train as a LPSI subsystem and a HPSI subsystem. The TS Actions provide a 72 hour Completion Time when one train is inoperable or if more than one train is inoperable but there is at 100% of the ECCS flow equivalent to a single OPERABLE train available. This latter condition addresses the situation of the LPSI subsystem of one train and the HPSI subsystem of the other train inoperable. NUREG-1432 TS 3.5.2 also contains an Action for one LPSI subsystem inoperable.

The Topical Report justifies Actions for two LPSI subsystems and two HPSI subsystems inoperable. In order to clarify the operator actions, the Actions of Specification 3.5.2 are revised to address inoperable subsystems instead of inoperable trains.

The existing Condition A applies when one LPSI subsystem is inoperable.

A new Condition B is added which applies when two LPSI subsystem are inoperable and requires restoration of at least one LPSI subsystem within 24 hours.

A new Condition C is added which applies when one HPSI subsystem is inoperable. The existing Completion Time of 72 hours is applied.

A new Condition D is added which applies when two HPSI subsystems are inoperable and requires restoration of at least one HPSI subsystem within 4 hours.

The existing Condition D, which applies when there is less than 100% of the ECCS flow equivalent to a single OPERABLE train and requires immediate entry into LCO 3.0.3, is eliminated. The conditions which would result in less than 100% ECCS flow equivalent to a single train are addressed by other actions:

- Two LPSI subsystems inoperable and one HPSI subsystem inoperable – CT of 24 hours,
- Two HPSI subsystems inoperable and one LPSI subsystem inoperable – CT of 4 hours, or
- Two HPSI and two LPSI subsystems inoperable – CT of 4 hours.

The Bases are revised to reflect the changes to the TS. The order of references is revised so that the references are numbered in order of appearance.

TS 3.6.1, Containment

TS 3.6.1 states that with the containment inoperable, restore the containment to OPERABLE status within 1 hour or be in Mode 3 in 6 hours and Mode 5 in 36 hours. Condition A is modified to allow 8 hours to restore the containment to OPERABLE status. Condition B is modified to require being in Mode 3 in 6 hours and Mode 4 in 12 hours.

The Topical Report states that the Mode 4 end state is applicable if containment leakage is excessive due to reasons other than the inoperability of two or more Containment Isolation Valves in the same flow path. TS 3.6.3, Containment Isolation Valves, governs this condition and Condition F of TS 3.6.3 requires being in Mode 5. Note that TSTF-422 justified a change to TS 3.6.3, Condition F, from a Mode 5 end state to a Mode 4 end state. The Topical Report supporting TSTF-422 also justified a Mode 4 end state for an inoperable containment (although that change was not included in TSTF-422 for reasons described in the Traveler), so the combination of these two Travelers is acceptable.

There are two Bases sections for TS 3.6.1 – one for atmospheric containments and one for dual containments. Both Bases sections are modified to reflect the changes to the TS.

TS 3.6.6, Containment Spray and Cooling Systems

NUREG-1432 contains two containment spray and cooling system TS – one for plants that credit containment sprays for iodine removal and one that plants that do not. The TS changes discussed in the Topical Report specifically reference the "A" version of the TS, the version for plants that credit containment sprays for iodine removal, because this is the more limiting Specification. However, the authors have confirmed that the changes are equally applicable to the "B" Specification also.

Topical Report Table 5.2.3-2 lists the proposed modifications to the TS. The proposed changes are consistent with that Table. The Table notes that TS 3.6.6A, Condition A, which is applicable when one containment spray train is inoperable, has a 72 hour CT. A footnote to the Table states that TS 3.6.6B provides a 7 day CT for that Condition and the 7 day CT is applicable. Traveler TSTF-409, Revision 2, "Containment Spray System Completion Time Extension," which has been approved by the NRC and incorporated in Revision 3 of NUREG-1432, revised the TS 3.6.6A Completion Time to 7 days.

TS 3.6.6A, Condition B, is eliminated and Condition F is modified to eliminate redundant Actions and to make TS 3.6.6A and TS 3.6.6B similar.

TS 3.6.8, Shield Building Exhaust Air Cleanup System (SBEACS)

This TS was labeled LCO 3.6.13 in the Topical Report. It was renumbered by TSTF-447.

A new Condition B is added which applies when two SBEACS trains are inoperable and allows 24 hours to restore at least one SBEACS train to OPERABLE status. Condition C, which applies when the Required Actions and associated Completion Times are not met, is modified to have a Mode 4 end state

instead of a Mode 5 end state. This end state change was not included in TSTF-422 and is, therefore, included in this Traveler. The Bases changes associated with Condition C are consistent with the changes made in TSTF-422.

TS 3.6.10, Iodine Cleanup System (ICS)
A new Condition B is added which applies when two ICS trains are inoperable and allows 24 hours to restore at least one ICS train to OPERABLE status. Condition C, which applies when the Required Actions and associated Completion Times are not met, is modified to have a Mode 4 end state instead of a Mode 5 end state. This end state change was not included in TSTF-422 and is, therefore, included in this Traveler. The Bases changes associated with Condition C are consistent with the changes made in TSTF-422.

An editorial change is made to the LCO. The LCO requires "[Two]" ICS trains to be OPERABLE. The brackets around "Two" are removed. The Bases describe a two train system and WCAP-16125 describes a two train system. It does not appear that the number of systems should be bracketed and removing the brackets allows addition of an unambiguous action for two trains inoperable.

TS 3.7.11, Control Room Emergency Air Cleanup System (CREACS)
TS 3.7.11, Condition F, applies when two CREACS trains are inoperable due to any reason other than an inoperable control room boundary in Modes 1, 2, 3, or 4 and requires entering LCO 3.0.3 immediately. The Topical Report justifies a 24 hour Completion Time for two CREACS trains inoperable for any reason. Condition F is revised to require restoring one CREACS train to OPERABLE status within 24 hours and moves Condition F to Condition C. Existing Condition C, now Condition D, which requires entering Mode 3 in 6 hours and Mode 5 in 36 hours, is modified to apply to the new Condition C.

The Topical Report states that the 24 hour Completion Time is only applicable if it is less than the time to reach 5 REM operator dose from the radiation field associated with the main steam safety valves lifting due to a steam generator tube rupture. It also only applies if a plant specific analysis demonstrates that the toxic gas and chemical protection functions assumed in the plant's licensing basis can be performed for 24 hours with both CREACS trains inoperable. A Reviewer's Note with these restrictions has been added to the Bases of Condition C.

The Topical Report also justified a change in the end state from Mode 5 to Mode 4. This end state change was included in TSTF-422 and is, therefore, not included in this Traveler.

TS 3.7.12, Control Room Emergency Air Temperature Control System (CREATCS)
TS 3.7.1.2, Action E, applies when two CREATCS trains are inoperable in Mode 1, 2, 3, or 4 and requires entering LCO 3.0.3 immediately. The Topical Report justifies a 24 hour Completion Time for two CREATCS trains inoperable for any reason. Condition E is revised to require restoring one CREATCS train to OPERABLE status within 24 hours and moves Condition E to Condition B. Existing Condition B, now Condition C, which requires entering Mode 3 in 6 hours and Mode 5 in 36 hours, is modified to apply to the new Condition B.

The Topical Report also justified a change in the end state from Mode 5 to Mode 4. This end state change was included in TSTF-422 and is, therefore, not included in this Traveler.

TS 3.7.13, ECCS Penetration Room Exhaust Air Cleanup System (PREACS)
The Topical Report justifies a 24 hour Completion Time when two ECCS PREACS trains are inoperable. A new Action C is added for this condition. Action C is renumbered Action D.

The Topical Report also justified a change in the end state from Mode 5 to Mode 4. This end state change was included in TSTF-422 and is, therefore, not included in this Traveler.

TS 3.7.15, PREACS
The Topical Report justifies a 24 hour Completion Time when two PREACS trains are inoperable. A new Action C is added for this condition. Action C is renumbered Action D.

The Topical Report also justified a change in the end state from Mode 5 to Mode 4. This end state change was included in TSTF-422 and is, therefore, not included in this Traveler.

5.0 Regulatory Analysis

5.1 No Significant Hazards Consideration

The TSTF has evaluated whether or not a significant hazards consideration is involved with the proposed generic change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change provides a short Completion Time to restore an inoperable system for conditions under which the existing Technical Specifications require a plant shutdown to begin within one hour in accordance with Limiting Condition for Operation (LCO) 3.0.3. Entering into Technical Specification Actions is not an initiator of any accident previously evaluated. As a result, the probability of an accident previously evaluated is not significantly increased. The consequences of any accident previously evaluated that may occur during the proposed Completion Times are no different from the consequences of the same accident during the existing one hour allowance. As a result, the consequences of any accident previously evaluated are not significantly increased.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   No new or different accidents result from utilizing the proposed change. The changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. In addition, the changes do not impose any new or different requirements. The changes do not alter assumptions made in the safety analysis.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No.

The proposed change increase the time the plant may operate without the ability to perform an assumed safety function. The analyses in WCAP-16125, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent plant Shutdown," Revision 0, September 2003, demonstrated that there is an acceptably small increase in risk due to a limited period of continued operation in these conditions and that this risk is balanced by avoiding the risks associated with a plant shutdown. As a result, the change to the margin of safety provided by requiring a plant shutdown within one hour is not significant.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, the TSTF concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

Regulatory requirements are not specific regarding the actions to be followed when Technical Specification requirements are not met. Therefore, the proposed change to the Technical Specification Actions do not affect regulatory requirements. In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the approval of the proposed change will not be inimical to the common defense and security or to the health and safety of the public.

6.0 Environmental Consideration

A review has determined that the proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

7.0 References

1. WCAP-16125, "Justification for Risk-Informed Modifications to Selected Technical Specifications for Conditions Leading to Exigent plant Shutdown," Revision 0, September 2003.

2. CE NPSD-1186, "Technical Justification for the Risk-Informed Modification to Selected Required Action End States for CEOG PWRs," CE Owner's Group, April 2000.

3. TSTF-422, "Change in Technical Specifications End States (CE NPSD-1186)."

4. Letter from William D. Beckner (NRC) to Gordon Bischoff (Westinghouse) dated July 9, 2004, "Safety Evaluation Of WCAP-16125-NP, Rev. 0, "Justification For Risk-Informed Modifications To Selected Technical Specifications For Conditions Leading To Exigent Plant Shutdowns" TAC No. MBb1257."