TSTF
TECHNICAL SPECIFICATIONS TASK FORCE
A JOINT OWNERS GROUP ACTIVITY

August 19, 2003

TSTF-03-03

Dr. William D. Beckner, Director
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: TSTF-448, Revision 1

Dear Dr. Beckner:

Enclosed for NRC consideration is Technical Specification Task Force Traveler TSTF-448, Revision 1, "Control Room Habitability." This revision addresses the NRC's comments on TSTF-448, Revision 0, provided in a letter sent to Mr. A. R. Pietrangelo of the Nuclear Energy Institute (NEI) dated July 1, 2003 and also reflects the discussions between the NRC and the NEI Control Room Habitability Task Force at the public meeting held on July 11, 2003. This Traveler was developed in cooperation with the NEI Control Room Habitability Task Force. Please provide any future correspondence regarding this Traveler to the TSTF and please provide a copy to Mr. Jim Riley of NEI.

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 (control room habitability), in accordance with 10 CFR 170.11(a)(1)(iii). This request is consistent with the NRC letter to Mr. A. R. Pietrangelo on this subject dated January 10, 2003.

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

Control Room Habitability

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

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

Correction or Improvement: Improvement

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See attached.

Revision History

OG Revision 0 Revision Status: Closed

Revision Proposed by: NEI CRH Task Force

Revision Description:
Original Issue

Owners Group Review Information

Date Originated by OG: 29-Nov-02

Owners Group Comments:
(No Comments)

Owners Group Resolution: Approved Date: 16-Dec-02

TSTF Review Information

TSTF Received Date: 29-Nov-02 Date Distributed for Review: 29-Nov-02

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

TSTF Comments:
(No Comments)

TSTF Resolution: Approved Date: 16-Dec-02

NRC Review Information

NRC Received Date: 20-Dec-02

Date of NRC Letter: 01-Jul-03

Final Resolution: Superceded by Revision Final Resolution Date: 01-Jul-03

OG Revision 0 Revision Status: Closed

TSTF Revision 1 Revision Status: Active

Revision Proposed by: NEI CRH Task Force

Revision Description:
On July 1, 2003, the NRC provided comments on TSTF-448, Revision 0. Based on the NRC's comments, the following changes are made:

1. A new Condition B is added to address control room inleakage. This Condition applies when one or more control room ventilation trains are inoperable due to inleakage into the control room and the requirements of the Control Room Habitability Program can still be met with compensatory measures in place. Otherwise, Condition D applies. Condition B requires compensatory actions be initiated immediately and the inleakage be within limit within 14 days.

2. Condition C requires a report be submitted to the NRC within 90 days if the Required Actions and associated Completion Times of Condition B are not met.

3. The original Condition B, now Condition D, which applies when one or more control room ventilation trains are inoperable due to an inoperable control room boundary, is modified to not apply when Condition B is entered and the original 24 hour Completion Time is restored. The Bases state that the Condition applies to significant inleakage or breaches to the control room boundary in which the requirements of the Control Room Integrity Program cannot be met even with compensatory measures in place.

4. Condition A is modified to add, "for reasons other than Condition B or D" to prevent multiple condition entry of Condition A with Condition B or D.

5. The subsequent ACTIONS are renumbered due to the insertions.

6. The inleakage Surveillance is revised to clarify the purpose and acceptance criteria for the SR. The revised wording is consistent with that proposed by the NRC in Regulatory Guide 1.196. The Bases to the Surveillance are revised to more clearly describe the relationship between the Surveillance and the Control Room Integrity Program.

7. The Control Room Integrity Program is revised to reference Regulatory Guide 1.197, Revision 0, May 2003, and to allow for NRC approved, plant-specific exceptions. The purpose of the program is expanded and the program is required to contain the limits on control room inleakage and control room configuration control, management of breaches, and preventative maintenance of the control room.

8. The description of the report is revised to be more consistent with the Required Action.

9. The Bases of NUREG-1430 (B&W) are revised to be more consistent with the content of the comparable Bases in the other ISTS NUREGs.

10. In the July 1 letter, the NRC requested that a statement be added to the Control Room Integrity Program stating that the provisions of SR 3.0.2 are not applicable. Under the ITS usage rules, the provisions of Section 3.0 are not applicable to Frequencies in Chapter 5 unless specifically stated. However, the provisions of SR 3.0.2 should apply to the Frequencies in the Control Room Integrity Program. Control room in-leakage testing is a time-consuming and elaborate test. The provisions of SR 3.0.2 are intended to allow such tests to be scheduled efficiently and integrated into other plant activities. The Staff's comment that there is very limited data concerning control room integrity is not sufficient justification for eliminating this important planning provision. There is no demonstrated safety concern that would prohibit the use of SR 3.0.2 to schedule control room in-

TSTF Revision 1 **Revision Status: Active**

leakage testing in an efficient and effective manner. Therefore, a statement that SR 3.0.2 is applicable to the in-leakage testing Frequencies has been added.

An additional change, not related to the NRC's comment is made. The existing Condition B Bases state that 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. The phrase "and physical security" is eliminated. Physical security is not an aspect of GDC 19 nor of control room habitability. Including the phrase in the Bases for this Action is confusing. Furthermore, it is unnecessary. 10 CFR 73.55 "Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage," requires compensatory measures when physical barriers are not in place. 10 CFR 73.55(g) states, "Testing and maintenance. Each licensee shall test and maintain intrusion alarms, emergency alarms, communications equipment, physical barriers, and other security related devices or equipment utilized pursuant to this section as follows: (1) All alarms, communication equipment, physical barriers, and other security related devices or equipment shall be maintained in operable condition. The licensee shall develop and employ compensatory measures including equipment, additional security personnel and specific procedures to assure that the effectiveness of the security system is not reduced by failure or other contingencies affecting the operation of the security related equipment or structures." Repeating requirements that are found in the regulations in the Technical Specification Bases is unnecessary, confusing, and contrary to the ISTS use and format guidelines.

TSTF Review Information

TSTF Received Date: 29-Jul-03 Date Distributed for Review: 29-Jul-03

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

TSTF Comments:

(No Comments)

TSTF Resolution: Approved Date: 18-Aug-03

NRC Review Information

NRC Received Date: 19-Aug-03

Affected Technical Specifications

Bkgnd 3.7.10 Bases	CREVS	NUREG(s)- 1430 Only
S/A 3.7.10 Bases	CREVS	NUREG(s)- 1430 Only
LCO 3.7.10 Bases	CREVS	NUREG(s)- 1430 Only
Appl. 3.7.10 Bases	CREVS	NUREG(s)- 1430 Only
Action 3.7.10.A	CREVS	NUREG(s)- 1430 Only

Action 3.7.10.B	CREVS	NUREG(s)- 1430 Only
	Change Description: Renamed to D	
Action 3.7.10.B	CREVS	NUREG(s)- 1430 Only
	Change Description: New Action	
Action 3.7.10.B Bases	CREVS	NUREG(s)- 1430 Only
	Change Description: Renamed to D	
Action 3.7.10.B Bases	CREVS	NUREG(s)- 1430 Only
	Change Description: New Action	
Action 3.7.10.C	CREVS	NUREG(s)- 1430 Only
	Change Description: Renamed to E	
Action 3.7.10.C	CREVS	NUREG(s)- 1430 Only
	Change Description: New Action	
Action 3.7.10.C Bases	CREVS	NUREG(s)- 1430 Only
	Change Description: Renamed to E	
Action 3.7.10.C Bases	CREVS	NUREG(s)- 1430 Only
	Change Description: New Action	
Action 3.7.10.D	CREVS	NUREG(s)- 1430 Only
	Change Description: Renamed to F	
Action 3.7.10.D Bases	CREVS	NUREG(s)- 1430 Only
	Change Description: Renamed to F	
Action 3.7.10.E	CREVS	NUREG(s)- 1430 Only
	Change Description: Renamed to G	
Action 3.7.10.E Bases	CREVS	NUREG(s)- 1430 Only
	Change Description: Renamed to G	
Action 3.7.10.F	CREVS	NUREG(s)- 1430 Only
	Change Description: Renamed to H	
Action 3.7.10.F Bases	CREVS	NUREG(s)- 1430 Only
	Change Description: Renamed to H	
SR 3.7.10.4 Bases	CREVS	NUREG(s)- 1430 Only
SR 3.7.10.5 Bases	CREVS	NUREG(s)- 1430 Only
SR 3.7.10.6	CREVS	NUREG(s)- 1430 Only
	Change Description: New SR	
SR 3.7.10.6 Bases	CREVS	NUREG(s)- 1430 Only
	Change Description: New SR	
5.5.18	Control Room Integrity Program	NUREG(s)- 1430 Only

5.6.10	Control Room Emergency Ventilation System Report	NUREG(s)- 1430 Only
Bkgnd 3.7.10 Bases	CREFS	NUREG(s)- 1431 Only
S/A 3.7.10 Bases	CREFS	NUREG(s)- 1431 Only
LCO 3.7.10 Bases	CREFS	NUREG(s)- 1431 Only
Action 3.7.10.A	CREFS	NUREG(s)- 1431 Only
Action 3.7.10.B	CREFS	NUREG(s)- 1431 Only
	Change Description: Renamed to D	
Action 3.7.10.B	CREFS	NUREG(s)- 1431 Only
	Change Description: New Action	
Action 3.7.10.B Bases	CREFS	NUREG(s)- 1431 Only
	Change Description: New Action	
Action 3.7.10.B Bases	CREFS	NUREG(s)- 1431 Only
	Change Description: Renamed to D	
Action 3.7.10.C	CREFS	NUREG(s)- 1431 Only
	Change Description: New Action	
Action 3.7.10.C	CREFS	NUREG(s)- 1431 Only
	Change Description: Renamed to E	
Action 3.7.10.C Bases	CREFS	NUREG(s)- 1431 Only
	Change Description: Renamed to E	
Action 3.7.10.C Bases	CREFS	NUREG(s)- 1431 Only
	Change Description: New Action	
Action 3.7.10.D	CREFS	NUREG(s)- 1431 Only
	Change Description: Renamed to F	
Action 3.7.10.D Bases	CREFS	NUREG(s)- 1431 Only
	Change Description: Renamed to F	
Action 3.7.10.E	CREFS	NUREG(s)- 1431 Only
	Change Description: Renamed to G	
Action 3.7.10.E Bases	CREFS	NUREG(s)- 1431 Only
	Change Description: Renamed to G	
Action 3.7.10.F	CREFS	NUREG(s)- 1431 Only
	Change Description: Renamed to H	
Action 3.7.10.F Bases	CREFS	NUREG(s)- 1431 Only
	Change Description: Renamed to H	
SR 3.7.10.4 Bases	CREFS	NUREG(s)- 1431 Only

SR 3.7.10.5	CREFS	NUREG(s)- 1431 Only
	Change Description: New SR	
SR 3.7.10.5 Bases	CREFS	NUREG(s)- 1431 Only
	Change Description: New SR	
5.5.18	Control Room Integrity Program	NUREG(s)- 1431 Only
5.6.10	Control Room Emergency Filtration System Report	NUREG(s)- 1431 Only
Bkgnd 3.7.11 Bases	CREACS	NUREG(s)- 1432 Only
S/A 3.7.11 Bases	CREACS	NUREG(s)- 1432 Only
LCO 3.7.11 Bases	CREACS	NUREG(s)- 1432 Only
Action 3.7.11.A	CREACS	NUREG(s)- 1432 Only
Action 3.7.11.B	CREACS	NUREG(s)- 1432 Only
	Change Description: Renamed to D	
Action 3.7.11.B	CREACS	NUREG(s)- 1432 Only
	Change Description: New Action	
Action 3.7.11.B Bases	CREACS	NUREG(s)- 1432 Only
	Change Description: Renamed to D	
Action 3.7.11.B Bases	CREACS	NUREG(s)- 1432 Only
	Change Description: New Action	
Action 3.7.11.C	CREACS	NUREG(s)- 1432 Only
	Change Description: Renamed to E	
Action 3.7.11.C	CREACS	NUREG(s)- 1432 Only
	Change Description: New Action	
Action 3.7.11.C Bases	CREACS	NUREG(s)- 1432 Only
	Change Description: Renamed to E	
Action 3.7.11.C Bases	CREACS	NUREG(s)- 1432 Only
	Change Description: New Action	
Action 3.7.11.D	CREACS	NUREG(s)- 1432 Only
	Change Description: Renamed to F	
Action 3.7.11.D Bases	CREACS	NUREG(s)- 1432 Only
	Change Description: Renamed to F	
Action 3.7.11.E	CREACS	NUREG(s)- 1432 Only
	Change Description: Renamed to G	
Action 3.7.11.E Bases	CREACS	NUREG(s)- 1432 Only
	Change Description: Renamed to G	

Action 3.7.11.F	CREACS	NUREG(s)- 1432 Only
	Change Description: Renamed to H	
Action 3.7.11.F Bases	CREACS	NUREG(s)- 1432 Only
	Change Description: Renamed to H	
SR 3.7.11.4 Bases	CREACS	NUREG(s)- 1432 Only
SR 3.7.11.5	CREACS	NUREG(s)- 1432 Only
	Change Description: New SR	
SR 3.7.11.5 Bases	CREACS	NUREG(s)- 1432 Only
	Change Description: New SR	
5.5.18	Control Room Integrity Program	NUREG(s)- 1432 Only
5.6.10	Control Room Emergency Air Cleanup System Report	NUREG(s)- 1432 Only
Bkgnd 3.7.4 Bases	[MCREC] System	NUREG(s)- 1433 Only
LCO 3.7.4 Bases	[MCREC] System	NUREG(s)- 1433 Only
Action 3.7.4.A	[MCREC] System	NUREG(s)- 1433 Only
Action 3.7.4.B	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: Renamed to D	
Action 3.7.4.B	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: New Action	
Action 3.7.4.B Bases	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: Renamed to D	
Action 3.7.4.B Bases	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: New Action	
Action 3.7.4.C	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: New Action	
Action 3.7.4.C	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: Renamed to E	
Action 3.7.4.C Bases	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: New Action	
Action 3.7.4.C Bases	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: Renamed to E	
Action 3.7.4.D	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: Renamed to F	
Action 3.7.4.D Bases	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: Renamed to F	

Action 3.7.4.E	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: Renamed to G	
Action 3.7.4.E Bases	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: Renamed to G	
Action 3.7.4.F	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: Renamed to H	
Action 3.7.4.F Bases	[MCREC] System	NUREG(s)- 1433 Only
	Change Description: Renamed to H	
SR 3.7.4.4 Bases	[MCREC] System	NUREG(s)- 1433 Only
SR 3.7.4.5	[MCREC] System	NUREG(s)- 1433 Only
SR 3.7.4.5 Bases	[MCREC] System	NUREG(s)- 1433 Only
5.5.15	Control Room Integrity Program	NUREG(s)- 1433 Only
5.6.8	[MCREC] System Report	NUREG(s)- 1433 Only
Bkgnd 3.7.3 Bases	[CRFA] System	NUREG(s)- 1434 Only
LCO 3.7.3 Bases	[CRFA] System	NUREG(s)- 1434 Only
Action 3.7.3.A	[CRFA] System	NUREG(s)- 1434 Only
Action 3.7.3.B	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: New Action	
Action 3.7.3.B	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: Renamed to D	
Action 3.7.3.B Bases	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: New Action	
Action 3.7.3.B Bases	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: Renamed to D	
Action 3.7.3.C	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: New Action	
Action 3.7.3.C	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: Renamed to E	
Action 3.7.3.C Bases	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: New Action	
Action 3.7.3.C Bases	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: Renamed to E	
Action 3.7.3.D	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: Renamed to F	

Action 3.7.3.D Bases	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: Renamed to F	
Action 3.7.3.E	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: Renamed to G	
Action 3.7.3.E Bases	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: Renamed to G	
Action 3.7.3.F	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: Renamed to H	
Action 3.7.3.F Bases	[CRFA] System	NUREG(s)- 1434 Only
	Change Description: Renamed to H	
SR 3.7.3.4 Bases	[CRFA] System	NUREG(s)- 1434 Only
SR 3.7.3.5	[CRFA] System	NUREG(s)- 1434 Only
SR 3.7.3.5 Bases	[CRFA] System	NUREG(s)- 1434 Only
5.5.15	Control Room Integrity Program	NUREG(s)- 1434 Only
5.6.8	[CRFA] System Report	NUREG(s)- 1434 Only

1.0 Description

The specifications for the control room ventilation systems contain Conditions related to an inoperable boundary but do not recognize the effect of excessive inleakage on the design basis of these systems. Also, the control room pressurization Surveillances and their associated Bases do not recognize the potential for excessive inleakage even if the envelope is being successfully pressurized. This change addresses these shortcomings by revising the Required Actions, adding a Surveillance, and adding a Control Room Integrity Program. A report is also added, similar to the report required for inoperable Post Accident Monitoring Instrumentation.

2.0 Proposed Change

The ACTIONS of the control room ventilation Specification are revised to:

- Provide a new ACTION for one or more control room ventilation trains inoperable due to control room inleakage not within limits in any MODE in the Applicability;
- The new ACTION requires compensatory measures to be initiated immediately;
- The new ACTION requires inleakage to be restored to within limits within 14 days;
- If inleakage is not restored within 14 days, a new ACTION requires a report to be initiated in accordance with a new Administrative Control report requirement.

A new Surveillance is added which requires verification that control room inleakage is within the limits established in accordance with the Control Room Integrity Program. The Frequency is set in accordance with the Control Room Integrity Program.

A new Control Room Integrity Program is added to the Administrative Control Programs and Manuals. This program requires the establishment of a new Program to ensure control room envelope integrity is maintained.

A new Administrative Control Reporting Requirement is added, which requires a report to the NRC when the control room boundary is not restored within the 14 day Completion Time in the control room ventilation specification.

Some consistency issues between the ISTS NUREGs are addressed. Bases are added for existing NUREG-1430 SR 3.7.10.4. This SR has been in NUREG-1430 since Revision 0, but the NUREG has never contained Bases for the SR. Also, the NUREG-1430, Specification 3.7.10 Bases is revised to provide a level of detail and organization comparable to the other ISTS NUREGs.

The Bases are revised to reflect these changes and to update the discussion based on current experience, knowledge, regulatory requirements, and an accurate reflection of the purpose of the Specification.

3.0 Background

The Improved Standard Technical Specifications require that the control room ventilation system be capable of maintaining positive pressure in the control room relative to adjacent areas. The Bases for this surveillance states that it verifies the integrity of the control room enclosure and the assumed inleakage rates of the potentially contaminated air. Integrated inleakage testing has been performed at a number of plants and demonstrated that the measured inleakage rates were greater than the inleakage rates originally assumed in the safety analyses. These licensees, with positive pressure control rooms, had passed their positive pressure surveillance acceptance criteria. However, the positive pressure surveillance had not verified the assumed inleakage rate. Also, it has been

determined that even with the pressurization system maintaining a positive pressure in the control room envelope, there are certain areas that are still subject to inleakage that contribute to operator radiation exposure.

The NRC staff has stated its belief that the existing Surveillance Requirement is deficient because 10 CFR 50.36 requires technical specifications to be derived from the safety analyses. In addition, the NRC staff has suggested that correction of the technical specifications would be consistent with the NRC Administrative Letter 98– 10, *Dispositioning Of Technical Specifications That Are Insufficient To Assure Plant Safety*, which describes the NRC staff's expectation that licensees correct technical specifications that are found to ''contain non-conservative values or specify incorrect actions.''

4.0 Technical Analysis

The proposed change will modify Technical Specifications to address the potential for excessive inleakage that can increase the radiation exposure to the operators. The proposed changes will establish a Control Room Integrity Program that will contain several programmatic elements that work together to maintain the control room habitability requirements that are specified in 10 CFR 50, Appendix A, GDC 19. A new Surveillance is added to invoke this Program. The existing SR which verifies ability of the control room ventilation system to pressurize the control room is being retained because it verifies the OPERABILITY of the pressurization system. With the system being pressurized with respect to adjacent areas, it limits any inleakage to only those small surface areas that are subject to inleakage like duct seams, fan shafts, housing inspection doors, etc. where they are at a negative pressure relative to the control room envelope. The requirements represent a more comprehensive approach to control room habitability. Thus, these changes to the Improved Standard Technical Specifications are consistent with the current knowledge and experience in those areas that need to be controlled to assure a habitable post-accident environment for the operators.

The new ACTION, with a 14 day Completion Time, is appropriate for exceeding the control room inleakage limits when control room habitability can still be maintained with compensatory measures. This is described in the Bases for the new Condition B. The 14 day Completion Time recognizes the low probability of a DBA occurring during the time period when the boundary is degraded and the value of the compensatory measures that are implemented to assure continued protection of the operators. The existing action for an inoperable control room boundary (now Condition D) applies when control room habitability cannot be maintained, even with compensatory measures. In this case, the existing 24 hour Completion Time is appropriate.

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 changes do not adversely affect accident initiators or precursors nor alter the design assumptions, conditions, or configuration of the facility. The proposed changes do not alter or prevent the ability of structures, systems, and components (SSCs) from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. This is a revision to the

Technical Specifications for the control room ventilation system which is a mitigation system designed to minimize inleakage and to filter the control room atmosphere to protect the operator following accidents previously analyzed. An important part of the system is the control room boundary. The control room boundary integrity is not an initiator or precursor to any accident previously evaluated. Therefore, the probability of any accident previously evaluated is not increased. Performing tests and implementing programs that verify the integrity of the control room boundary and control room habitability ensure mitigation features are capable of performing the assumed function. Therefore, the consequences of any accident previously evaluated are not increased.

Therefore, it is concluded that this change does not significantly increase the probability 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.

   This revision will not impact the accident analysis. The changes will not alter the requirements of the control room ventilation system or its function during accident conditions. No new or different accidents result from performing the new actions and surveillance required. 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 significant change in the methods governing normal plant operation. The changes do not alter assumptions made in the safety analysis. The proposed changes are consistent with the safety analysis assumptions and current plant operating practice.

   Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   Response: No.

   The proposed changes do not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The safety analysis acceptance criteria are not affected by these changes. The proposed changes will not result in plant operation in a configuration outside the design basis for an unacceptable period of time without compensatory measures. The proposed changes do not affect systems that respond to safely shutdown the plant and to maintain the plant in a safe shutdown condition.

   Therefore, it is concluded that this change does not involve a significant reduction in the margin of safety.

Based on the above, the TSTF concludes that the proposed change presents no significant hazards considerations 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

The proposed change to the Improved Standard Technical Specifications will ensure that the requirements contained in 10 CFR 50, Appendix A, GDC 19 are maintained. The new Control Room Integrity Program will ensure that control room habitability is maintained. 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 not 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 not change an inspection or surveillance requirement. 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

10 CFR 50, Appendix A, General Design Criterion 19.

INSERT 1A (NUREG-1430)

B. One or more CREVS trains inoperable due to inleakage not within limits.	B.1	Initiate compensatory measures.	Immediately
	AND		
	B.2	Restore inleakage to within limits specified in the Control Room Integrity Program.	14 days
C. Required Action and associated Completion Time of Condition B not met.	C.1	Initiate action in accordance with Specification 5.6.10.	Immediately

INSERT 1B (NUREG-1431)

B. One or more CREFS trains inoperable due to inleakage not within limits.	B.1	Initiate compensatory measures.	Immediately
	AND		
	B.2	Restore inleakage to within limits specified in the Control Room Integrity Program.	14 days
C. Required Action and associated Completion Time of Condition B not met.	C.1	Initiate action in accordance with Specification 5.6.10.	Immediately

INSERT 1C (NUREG-1432)

B. One or more CREACS trains inoperable due to inleakage not within limits.	B.1 AND	Initiate compensatory measures.	Immediately
	B.2	Restore inleakage to within limits specified in the Control Room Integrity Program.	14 days
C. Required Action and associated Completion Time of Condition B not met.	C.1	Initiate action in accordance with Specification 5.6.10.	Immediately

INSERT 1D (NUREG-1433)

B. One or more [MCREC] subsystems inoperable due to inleakage not within limits.	B.1 AND	Initiate compensatory measures.	Immediately
	B.2	Restore inleakage to within limits specified in the Control Room Integrity Program.	14 days
C. Required Action and associated Completion Time of Condition B not met.	C.1	Initiate action in accordance with Specification 5.6.8.	Immediately

INSERT 1E (NUREG-1434)

B. One or more [CRFA] subsystems inoperable due to inleakage not within limits.	B.1	Initiate compensatory measures.	Immediately
	AND		
	B.2	Restore inleakage to within limits specified in the Control Room Integrity Program.	14 days
C. Required Action and associated Completion Time of Condition B not met.	C.1	Initiate action in accordance with Specification 5.6.9.	Immediately

INSERT 2A (NUREG-1430)

SR 3.7.10.6	Verify control room inleakage is within limits as established in accordance with the Control Room Integrity Program.	In accordance with Control Room Integrity Program

INSERT 2B (NUREG-1431)

SR 3.7.10.5	Verify control room inleakage is within limits as established in accordance with the Control Room Integrity Program.	In accordance with Control Room Integrity Program

INSERT 2C (NUREG-1432)

SR 3.7.11.5	Verify control room inleakage is within limits as established in accordance with the Control Room Integrity Program.	In accordance with Control Room Integrity Program

INSERT 2D (NUREG-1433)

SR 3.7.4.5	Verify control room inleakage is within limits as established in accordance with the Control Room Integrity Program.	In accordance with Control Room Integrity Program

INSERT 2E (NUREG-1434)

SR 3.7.3.5	Verify control room inleakage is within limits as established in accordance with the Control Room Integrity Program.	In accordance with Control Room Integrity Program

INSERT 3A (NUREG-1430)

B.1 and B.2

If the control room inleakage exceeds the limits in the Control Room Integrity Program, compensatory measures (consistent with the intent of GDC 19) should be initiated immediately to protect control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity. Preplanned measures must be available to address these concerns for intentional and unintentional entry into the Condition. This Condition applies to inleakage from minor breaches in the control room boundary in which the objectives of the Control Room Integrity Program can still be met with compensatory measures in place. Action must be taken to restore inleakage to within the limits within 14 days. The 14 day Completion Time is reasonable based on the low probability of an event occurring during this time period, and the use of compensatory measures. The 14 day Completion Time is a typically reasonable time to diagnose, plan and repair, and test most problems with control room inleakage.

C.1

Condition C applies when the Required Actions and associated Completion Times for Condition B are not met. This Required Action specifies initiation of actions in Specification 5.6.10, which requires a written report to be submitted to the NRC. This report discusses the compensatory measures, the cause of the inoperability, and plans and schedule for restoring inleakage to within the limits specified in the Control Room Integrity Program. Consistent with LCO 3.0.2, if control room inleakage is restored to within limits before the report is due, the report is not required to be submitted. This action is appropriate in lieu of a shutdown requirement since alternative actions are identified which may preclude the loss of functional capability, and given the likelihood of unit conditions that would require the control room boundary to be OPERABLE.

INSERT 3B (NUREG-1431)

B.1 and B.2

If the control room inleakage exceeds the limits in the Control Room Integrity Program, compensatory measures (consistent with the intent of GDC 19) should be initiated immediately to protect control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity. Preplanned measures must be available to address these concerns for intentional and unintentional entry into the Condition. This Condition applies to inleakage from minor breaches in the control room boundary in which the objectives of the Control Room Integrity Program can still be met with compensatory measures in place. Action must be taken to restore inleakage to within the limits within 14 days. The 14 day Completion Time is reasonable based on the low probability of an event occurring during this time period, and the use of compensatory measures. The 14 day Completion Time is a typically reasonable time to diagnose, plan and repair, and test most problems with control room inleakage.

C.1

Condition C applies when the Required Actions and associated Completion Times for Condition B are not met. This Required Action specifies initiation of actions in Specification 5.6.10, which requires a written report to be submitted to the NRC. This report discusses the compensatory measures, the cause of the inoperability, and plans and schedule for restoring inleakage to within the limits specified in the Control Room Integrity Program. Consistent with LCO 3.0.2, if control room inleakage is restored to within limits before the report is due, the report is not required to be submitted. This action is appropriate in lieu of a shutdown requirement since alternative actions are identified which may preclude the loss of functional capability, and given the likelihood of unit conditions that would require the control room boundary to be OPERABLE.

INSERT 3C (NUREG-1432)

B.1 and B.2

If the control room inleakage exceeds the limits in the Control Room Integrity Program, compensatory measures (consistent with the intent of GDC 19) should be initiated immediately to protect control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity. Preplanned measures must be available to address these concerns for intentional and unintentional entry into the Condition. This Condition applies to inleakage from minor breaches in the control room boundary in which the objectives of the Control Room Integrity Program can still be met with compensatory measures in place. Action must be taken to restore inleakage to within the limits within 14 days. The 14 day Completion Time is reasonable based on the low probability of an event occurring during this time period, and the use of compensatory measures. The 14 day Completion Time is a typically reasonable time to diagnose, plan and repair, and test most problems with control room inleakage.

C.1

Condition C applies when the Required Actions and associated Completion Times for Condition B are not met. This Required Action specifies initiation of actions in Specification 5.6.10, which requires a written report to be submitted to the NRC. This report discusses the compensatory measures, the cause of the inoperability, and plans and schedule for restoring inleakage to within the limits specified in the Control Room Integrity Program. Consistent with LCO 3.0.2, if control room inleakage is restored to within limits before the report is due, the report is not required to be submitted. This action is appropriate in lieu of a shutdown requirement since alternative actions are identified which may preclude the loss of functional capability, and given the likelihood of unit conditions that would require the control room boundary to be OPERABLE.

INSERT 3D (NUREG-1433)

B.1 and B.2

If the control room inleakage exceeds the limits in the Control Room Integrity Program, compensatory measures (consistent with the intent of GDC 19) should be initiated immediately to protect control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity. Preplanned measures must be available to address these concerns for intentional and unintentional entry into the Condition. This Condition applies to inleakage from minor breaches in the control room boundary in which the objectives of the Control Room Integrity Program can still be met with compensatory measures in place. Action must be taken to restore inleakage to within the limits within 14 days. The 14 day Completion Time is reasonable based on the low probability of an event occurring during this time period, and the use of compensatory measures. The 14 day Completion Time is a typically reasonable time to diagnose, plan and repair, and test most problems with control room inleakage.

C.1

Condition C applies when the Required Actions and associated Completion Times for Condition B are not met. This Required Action specifies initiation of actions in Specification 5.6.8, which requires a written report to be submitted to the NRC. This report discusses the compensatory measures, the cause of the inoperability, and plans and schedule for restoring inleakage to within the limits specified in the Control Room Integrity Program. Consistent with LCO 3.0.2, if control room inleakage is restored to within limits before the report is due, the report is not required to be submitted. This action is appropriate in lieu of a shutdown requirement since alternative actions are identified which may preclude the loss of functional capability, and given the likelihood of unit conditions that would require the control room boundary to be OPERABLE.

INSERT 3E (NUREG-1434)

B.1 and B.2

If the control room inleakage exceeds the limits in the Control Room Integrity Program, compensatory measures (consistent with the intent of GDC 19) should be initiated immediately to protect control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity. Preplanned measures must be available to address these concerns for intentional and unintentional entry into the Condition. This Condition applies to inleakage from minor breaches in the control room boundary in which the objectives of the Control Room Integrity Program can still be met with compensatory measures in place. Action must be taken to restore inleakage to within the limits within 14 days. The 14 day Completion Time is reasonable based on the low probability of an event occurring during this time period, and the use of compensatory measures. The 14 day Completion Time is a typically reasonable time to diagnose, plan and repair, and test most problems with control room inleakage.

C.1

Condition C applies when the Required Actions and associated Completion Times for Condition B are not met. This Required Action specifies initiation of actions in Specification 5.6.9, which requires a written report to be submitted to the NRC. This report discusses the compensatory measures, the cause of the inoperability, and plans and schedule for restoring inleakage to within the limits specified in the Control Room Integrity Program. Consistent with LCO 3.0.2, if control room inleakage is restored to within limits before the report is due, the report is not required to be submitted. This action is appropriate in lieu of a shutdown requirement since alternative actions are identified which may preclude the loss of functional capability, and given the likelihood of unit conditions that would require the control room boundary to be OPERABLE.

INSERT 4A (NUREG-1430)

SR 3.7.10.5

This SR verifies the CREVS can supply the control room with outside air to meet the design requirement. The Frequency of [18] months is consistent with industry practice and other filtration SRs.

SR 3.7.10.6

This SR verifies the integrity of the control room envelope by requiring testing for control room inleakage. The details of the inleakage testing are contained in the Control Room Integrity Program. Failure to meet individual requirements of the Control Room Integrity Program does not necessarily make the CREVS inoperable. Each individual failure should be evaluated against the design basis to determine if the CREVS can still perform its safety function. If the CREVS can still perform its safety function, the system is OPERABLE.

INSERT 4B (NUREG-1431)

SR 3.7.10.5

This SR verifies the integrity of the control room envelope by requiring testing for control room inleakage. The details of the inleakage testing are contained in the Control Room Integrity Program. Failure to meet individual requirements of the Control Room Integrity Program does not necessarily make the CREFS inoperable. Each individual failure should be evaluated against the design basis to determine if the CREFS can still perform its safety function. If the CREFS can still perform its safety function, the system is OPERABLE.

INSERT 4C (NUREG-1432)

SR 3.7.11.5

This SR verifies the integrity of the control room envelope by requiring testing for control room inleakage. The details of the inleakage testing are contained in the Control Room Integrity Program. Failure to meet individual requirements of the Control Room Integrity Program does not necessarily make the CREACS inoperable. Each individual failure should be evaluated against the design basis to determine if the CREACS can still perform its safety function. If the CREACS can still perform its safety function, the system is OPERABLE.

INSERT 4D (NUREG-1433)

SR 3.7.4.5

This SR verifies the integrity of the control room envelope by requiring testing for control room inleakage. The details of the inleakage testing are contained in the Control Room Integrity Program. Failure to meet individual requirements of the Control Room Integrity Program does not necessarily make the [MCREC] System inoperable. Each individual failure should be evaluated against the design basis to determine if the [MCREC] System can still perform its safety function. If the [MCREC] System can still perform its safety function, the system is OPERABLE.

INSERT 4E (NUREG-1434)

SR 3.7.3.5

This SR verifies the integrity of the control room envelope by requiring testing for control room inleakage. The details of the inleakage testing are contained in the Control Room Integrity Program. Failure to meet individual requirements of the Control Room Integrity Program does not necessarily make the [CRFA] System inoperable. Each individual failure should be evaluated against the design basis to determine if the [CRFA] System can still perform its safety function. If the [CRFA] System can still perform its safety function, the system is OPERABLE.

INSERT 5A (NUREG-1430, NUREG-1431, NUREG-1432))

5.5.18 Control Room Integrity Program

A Control Room Integrity Program shall be established and implemented to ensure that control room envelope integrity is maintained such that an accident arising from a radiological event, hazardous chemicals, or a smoke challenge will not prevent the control room operators from controlling the reactor in accordance with [10 CFR 50, Appendix A, General Design Criteria 19]. The program shall provide controls to limit radioactive gas, toxic gas, and smoke leakage into the control room from sources external to the control room envelope to levels that support control room habitability. The program shall include guidance on the following elements:

a. The limits on control room radioactive and hazardous chemical inleakage;

b. Defining the control room envelope boundaries;

c. Assessing control room habitability at the frequencies specified in Regulatory Guide 1.197, Revision 0, May 2003;

d. Testing for control room inleakage in accordance with the testing protocols and at the frequencies specified in Regulatory Guide 1.197, Revision 0, May 2003 [, with the following exceptions:

   1. ; and]

e. Maintaining control room envelope integrity, including configuration control, managing breaches, and preventative maintenance.

The provisions of SR 3.0.2 are applicable to the control room inleakage testing frequencies.

INSERT 5B (NUREG-1433)

5.5.15 Control Room Integrity Program

A Control Room Integrity Program shall be established and implemented to ensure that control room envelope integrity is maintained such that an accident arising from a radiological event, hazardous chemicals, or a smoke challenge will not prevent the control room operators from controlling the reactor in accordance with [10 CFR 50, Appendix A, General Design Criteria 19]. The program shall provide controls to limit radioactive gas, toxic gas, and smoke leakage into the control room from sources external to the control room envelope to levels that support control room habitability. The program shall include guidance on the following elements:

f. The limits on control room radioactive and hazardous chemical inleakage;

g. Defining the control room envelope boundaries;

h. Assessing control room habitability at the frequencies specified in Regulatory Guide 1.197, Revision 0, May 2003;

i. Testing for control room inleakage in accordance with the testing protocols and at the frequencies specified in Regulatory Guide 1.197, Revision 0, May 2003 [, with the following exceptions:

   1. ; and]

j. Maintaining control room envelope integrity, including configuration control, managing breaches, and preventative maintenance.

The provisions of SR 3.0.2 are applicable to the control room inleakage testing frequencies.

INSERT 5C (NUREG-1434)

5.5.15 Control Room Integrity Program

A Control Room Integrity Program shall be established and implemented to ensure that control room envelope integrity is maintained such that an accident arising from a radiological event, hazardous chemicals, or a smoke challenge will not prevent the control room operators from controlling the reactor in accordance with [10 CFR 50, Appendix A, General Design Criteria 19]. The program shall provide controls to limit radioactive gas, toxic gas, and smoke leakage into the control room from sources external to the control room envelope to levels that support control room habitability. The program shall include guidance on the following elements:

k. The limits on control room radioactive and hazardous chemical inleakage;

l. Defining the control room envelope boundaries;

m. Assessing control room habitability at the frequencies specified in Regulatory Guide 1.197, Revision 0, May 2003;

n. Testing for control room inleakage in accordance with the testing protocols and at the frequencies specified in Regulatory Guide 1.197, Revision 0, May 2003 [, with the following exceptions:

1. ; and]

o. Maintaining control room envelope integrity, including configuration control, managing breaches, and preventative maintenance.

The provisions of SR 3.0.2 are applicable to the control room inleakage testing frequencies.

INSERT 6A (NUREG-1430)

5.6.10 Control Room Emergency Ventilation System Report

When a report is required by Condition C of LCO 3.7.10, "Control Room Emergency Ventilation System (CREVS)," a report shall be submitted within the following 90 days. The report shall outline the compensatory measures, the cause of the inoperability, and the plans and schedule for restoring inleakage to within the limits specified in the Control Room Integrity Program.

INSERT 6B (NUREG-1431)

5.6.10 Control Room Emergency Filtration System Report

When a report is required by Condition C of LCO 3.7.10, "Control Room Emergency Filtration System (CREFS)," a report shall be submitted within the following 90 days. The report shall outline the compensatory measures, the cause of the inoperability, and the plans and schedule for restoring inleakage to within the limits specified in the Control Room Integrity Program.

INSERT 6C (NUREG-1432)

5.6.10 Control Room Emergency Air Cleanup System Report

When a report is required by Condition C of LCO 3.7.11, "Control Room Emergency Air Cleanup System (CREACS)" a report shall be submitted within the following 90 days. The report shall outline the compensatory measures, the cause of the inoperability, and the plans and schedule for restoring inleakage to within the limits specified in the Control Room Integrity Program.

INSERT 6D (NUREG-1433)

5.6.8 [Main Control Room Environmental Control (MCREC)] System Report

When a report is required by Condition C of LCO 3.7.4, "[Main Control Room Environmental Control (MCREC)] System," a report shall be submitted within the following 90 days. The report shall outline the compensatory measures, the cause of the inoperability, and the plans and schedule for restoring inleakage to within the limits specified in the Control Room Integrity Program.

INSERT 6E (NUREG-1434)

5.6.9 [Control Room Fresh Air] System Report

When a report is required by Condition C of LCO 3.7.3, "[Control Room Fresh Air (CRFA)] System," a report shall be submitted within the following 90 days. The report shall outline the compensatory measures, the cause of the inoperability, and the plans and schedule for restoring inleakage to within the limits specified in the Control Room Integrity Program.

INSERT 7

This Condition applies to significant inleakage or breaches to the control room boundary in which the objectives of the Control Room Integrity Program cannot be met even with compensatory measures in place.

INSERT 8

whole body or its equivalent to any part of the body [or 5 rem TEDE per GDC-19]

INSERT 9

Inleakage must also be maintained such that operator exposure limits are not exceeded.

INSERT 10

For other openings (hatches, access panels, floor plugs, etc.), these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening and restore the control room boundary to the design condition when a need for control room isolation is indicated. If the above conditions for utilizing the LCO Note cannot be met, Condition B or D should be entered.

INSERT 11 (NUREG-1430)

Continuous operation of each train for at least 10 hours per month, with the heaters on, reduces moisture buildup on the HEPA filters and adsorbers. Both the water condensing units and heater are important to the effectiveness of the charcoal adsorbers.

Actuation of the CREVS places the system in either of two separate states (emergency radiation state or toxic gas isolation state) of the emergency mode of operation, depending on the initiation signal. Actuation of the system to the emergency radiation state of the emergency mode of operation, closes the unfiltered outside air intake and unfiltered exhaust dampers, and aligns the system for recirculation of the control room air through the redundant trains of HEPA and the charcoal filters. The emergency radiation state also initiates pressurization and filtered ventilation of the air supply to the control room.

Outside air is filtered, diluted with building air from the electrical equipment and cable spreading rooms, and added to the air being recirculated from the control room. Pressurization of the control room minimizes infiltration of unfiltered air from the surrounding areas of the building. The actions taken in the toxic gas isolation state are the same, except that the signal switches control room ventilation to an isolation alignment to prevent outside air from entering the control room.

[The air entering the control room is continuously monitored by radiation and toxic gas detectors. One detector output above the setpoint will cause actuation of the emergency radiation state or toxic gas isolation state, as required. The actions of the toxic gas isolation state are more restrictive, and will override the actions of the emergency radiation state.]

INSERT 12 (NUREG-1430)

In [MODE 5 or 6], the CREVS is required to cope with the release from the rupture of an outside waste gas tank.

3.7 PLANT SYSTEMS

3.7.10 *Control Room Emergency Ventilation System (CREVS)*

LCO 3.7.10 Two CREVS trains shall be OPERABLE.

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

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

for reasons other than Condition B or D

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREVS train inoperable.	A.1 Restore CREVS train to OPERABLE status.	7 days
B. Two CREVS trains inoperable due to inoperable control room boundary in MODE 1, 2, 3, or 4.	B.1 Restore control room boundary to OPERABLE status. for reasons other than Condition B	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

Insert 1A

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F D. [Required Action and associated Completion Time of Condition A not met during movement of [recently] irradiated fuel assemblies. editorial change for consistency with Applicability & other NUREGs [in MODE 5 or 6, or]	D.1 F. **- NOTE -** Place in emergency mode if automatic transfer to emergency mode inoperable.	
	Place OPERABLE CREVS train in emergency mode.	Immediately
	OR	
	D.2 F. Suspend movement of [recently] irradiated fuel assemblies.	Immediately]
G E. [Two CREVS trains inoperable during movement of [recently] irradiated fuel assemblies.	E.1 G. Suspend movement of [recently] irradiated fuel assemblies. for reasons other than Condition B	Immediately]
H F. Two CREVS trains inoperable during MODE 1, 2, 3, or 4 for reasons other than Condition B. or D	F.1 H. Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Operate each CREVS train for [≥ 10 continuous hours with the heaters operating or (for system without heaters) ≥ 15 minutes].	31 days
SR 3.7.10.2	Perform required CREVS filter testing in accordance with the [Ventilation Filter Testing Program (VFTP)].	In accordance with the [VFTP]

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.7.10.3	Verify [each CREVS train actuates] [or the control room isolates] on an actual or simulated actuation signal.	[18] months
SR 3.7.10.4	Verify one CREVS train can maintain a positive pressure of ≥ [0.125] inches water gauge relative to the adjacent [area] during the [pressurization] mode of operation at a flow rate of ≤ [3300] cfm.	[18] months on a STAGGERED TEST BASIS
SR 3.7.10.5	[Verify the system makeup flow rate is ≥ [270] and ≤ [330] cfm when supplying the the control room with outside air.	[18] months]

Insert 2A

5.5 Programs and Manuals

5.5.16 Containment Leakage Rate Testing Program (continued)

e. The provisions of SR 3.0.3 are applicable to the Containment Leakage Rate Testing Program.

f. Nothing in these Technical Specifications shall be construed to modify the testing Frequencies required by 10 CFR 50, Appendix J.

5.5.17 Battery Monitoring and Maintenance Program

This Program provides for battery restoration and maintenance, based on [the recommendations of IEEE Standard 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," or of the battery manufacturer] including the following:

a. Actions to restore battery cells with float voltage < [2.13] V, and

b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the minimum established design limit.

Insert 5A

5.6 Reporting Requirements

5.6.7 Post Accident Monitoring Report (*continued*)

monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

5.6.8 [Tendon Surveillance Report

Any abnormal degradation of the containment structure detected during the tests required by the Pre-stressed Concrete Containment Tendon Surveillance Program shall be reported to the NRC within 30 days. The report shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, and the corrective action taken.]

5.6.9 Steam Generator Tube Inspection Report

- REVIEWER'S NOTES -

1. Reports required by the Licensee's current licensing basis regarding steam generator tube surveillance requirements shall be included here. An appropriate administrative controls format should be used.

2. These reports may be required covering inspection, test, and maintenance activities. These reports are determined on an individual basis for each unit and their preparation and submittal are designated in the Technical Specifications.

REVISION HISTORY

REVISION	TSTF	DESCRIPTION	APPROVED
2.1	TSTF-419	Revise PTLR Definition and References in ISTS 5.6.6, RCS PTLR	03/21/02

Insert 6A

B 3.7 PLANT SYSTEMS

B 3.7.10 Control Room Emergency Ventilation System (CREVS)

BASES

BACKGROUND

The CREVS provides a protected environment from which operators can control the unit following an uncontrolled release of radioactivity[, chemicals, or toxic gas].

The CREVS consists of two independent, redundant, fan filter assemblies. Each filter train consists of a roughing filter, a high efficiency particulate air (HEPA) filter, and a charcoal filter.

and a fan. Ductwork, valves or dampers, and instrumentation also form part of the system.

The CREVS is an emergency system. Upon receipt of the activating signal(s), the normal control room ventilation system is automatically shut down and the CREVS can be manually started. The roughing filters and water condensing units remove any large particles in the air, and any entrained water droplets present, to prevent excessive loading of the HEPA and charcoal filters.

Insert 11

A single train will pressurize the control room ~~with a 1.5 ft² LEAKAGE~~ area to about 1/8 inch water gauge. The CREVS operation is discussed in the FSAR, Section [9.4] (Ref. 1).

environment

The CREVS is designed to maintain the control room for 30 days of continuous occupancy after a Design Basis Accident (DBA), without exceeding a 5 rem whole body dose or its equivalent to any part of the body.

[or 5 rem TEDE per GDC-19]

APPLICABLE SAFETY ANALYSES

The CREVS components are arranged in redundant safety related ventilation trains. The location of components and ducting within the control room envelope ensures an adequate supply of filtered air to all areas requiring access. The CREVS provides airborne radiological protection for the control room operators as demonstrated by the control room accident dose analyses for the most limiting design basis ~~loss of coolant~~ accident fission product release presented in the FSAR, Chapter [15] (Ref. 2).

The worst case single active failure of a CREVS component, assuming a loss of offsite power, does not impair the ability of the system to perform its design function.

[For this unit, there are no sources of toxic gases or chemicals that could be released to affect control room habitability.]

BASES

APPLICABLE SAFETY ANALYSES (continued)

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

LCO

Two independent and redundant CREVS trains are required to be OPERABLE to ensure that at least one is available if a single failure disables the other train. Total system failure could result in exceeding a dose of 5 rem to the control room operators in the event of a large radioactive release.

Insert 8

The CREVS is considered OPERABLE when the individual components necessary to control operator exposure are OPERABLE in both trains. A CREVS train is considered OPERABLE when the associated:

a. Fan is OPERABLE,

b. HEPA filter and charcoal absorber are not excessively restricting flow, and are capable of performing their filtration functions, and

c. Heater, demister, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

In addition, the control room boundary, including the integrity of the walls, floors, ceilings, ductwork, and access doors, must be maintained within the assumptions of the design analysis.

Insert 9

The LCO is modified by a Note allowing the control room boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room isolation is indicated.

Insert 10

APPLICABILITY

In MODES 1, 2, 3, and 4, [5, and 6] and during movement of [recently] irradiated fuel assemblies the CREVS must be OPERABLE to ensure that the control room will remain habitable during and following a DBA.

Insert 12

During movement of [recently] irradiated fuel assemblies, the CREVS must be OPERABLE to cope with a release due to a fuel handling accident [involving handling recently irradiated fuel. Due to radioactive decay, CREVS is only required to mitigate fuel handling accidents involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [ ] days)].

BASES

ACTIONS

A.1

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

Insert 3A

D B.1

D - 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. D

If the control room boundary is inoperable in MODE 1, 2, 3, or 4, the one or more CREVS trains cannot perform their intended functions. Actions must be taken to restore an inoperable 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 7

E C.1 and C.2

In MODE 1, 2, 3, or 4, if the inoperable CREVS train or control room boundary cannot be restored to OPERABLE status within the required 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.

that minimizes accident risk

BASES

ACTIONS (continued)

[D.1 and D.2

[In MODE 5 or 6, or] during movement of [recently] irradiated fuel assemblies, if the inoperable CREVS train cannot be restored to OPERABLE status within the required Completion Time, the OPERABLE CREVS train must immediately be placed in the emergency mode. 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. Required Action D.1 is modified by a Note indicating to place the system in the emergency mode if automatic transfer to emergency mode is inoperable.

An alternative to Required Action D.1 is to immediately suspend activities that could release 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

[In MODE 5 or 6, or] during movement of [recently] irradiated fuel assemblies, when two CREVS trains are inoperable for reasons other than Condition B, action must be taken immediately to suspend activities that could release 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 CREVS trains are inoperable in MODE 1, 2, 3, or 4 for reasons other than an inoperable control room boundary (i.e., Condition B or D), the CREVS 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 3.7.10.1

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 adequately checks this system. Monthly heater operations dry out any moisture that has accumulated in the charcoal because 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

BASES

SURVEILLANCE REQUIREMENTS (continued)

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 3.7.10.2

This SR verifies that the required CREVS testing is performed in accordance with the [Ventilation Filter Testing Program (VFTP)]. The [VFTP] includes testing HEPA filter performance, charcoal absorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal. Specific test frequencies and additional information are discussed in detail in the [VFTP].

SR 3.7.10.3

This SR verifies that [each CREVS train starts] [or the control room isolates] and operates on an actual or simulated actuation signal. The Frequency of [18] months is consistent with that specified in Reference 3.

SR 3.7.10.4

capability of the CREVS to pressurize the control room envelope

This SR verifies the integrity of the control room enclosure and the assumed inleakage rates of the potentially contaminated air. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify that the CREVS is functioning properly. During the emergency mode of operation, the CREVS is designed to pressurize the control room ≥ [0.125] inches water gauge positive pressure, with respect to adjacent areas, to prevent unfiltered inleakage. The CREVS is designed to maintain this positive pressure with one train at a flow rate of ≤ [3300] cfm. This value includes [300] cfm of outside air. The Frequency of [18] months on a STAGGERED TEST BASIS is consistent with industry practice and other filtration SRs.

this

minimize

Insert 4A

REFERENCES

1. FSAR, Section [9.4].
2. FSAR, Chapter [15].
3. Regulatory Guide 1.52, Rev. [2].

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Filtration System (CREFS)

LCO 3.7.10 Two CREFS 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.

For reasons other than Condition B or D

ACTIONS

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

Insert 1B

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F D. Required Action and associated Completion Time of Condition A not met [in MODE 5 or 6, or] during movement of [recently] irradiated fuel assemblies.	D.1 F **- NOTE -** [Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.] Place OPERABLE CREFS train in emergency mode. OR D.2 F Suspend movement of [recently] irradiated fuel assemblies.	Immediately Immediately
G E. Two CREFS trains inoperable [in MODE 5 or 6, or] during movement of [recently] irradiate fuel assemblies.	E.1 G Suspend movement of [recently] irradiated fuel assemblies. for reasons other than Condition B	Immediately
H F. Two CREFS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	F.1 H Enter LCO 3.0.3 or D	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Operate each CREFS train for [≥ 10 continuous hours with the heaters operating or (for systems without heaters) ≥ 15 minutes].	31 days
SR 3.7.10.2	Perform required CREFS filter testing in accordance with the [Ventilation Filter Testing Program (VFTP)].	In accordance with [VFTP]

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.7.10.3	Verify each CREFS train actuates on an actual or simulated actuation signal.	[18] months
SR 3.7.10.4	Verify one CREFS train can maintain a positive pressure of > [0.125] inches water gauge, relative to the adjacent [turbine building] during the pressurization mode of operation at a makeup flow rate of ≤ [3000] cfm.	[18] months on a STAGGERED TEST BASIS

Insert 2B

5.5 Programs and Manuals

5.5.16 Containment Leakage Rate Testing Program (continued)

e. The provisions of SR 3.0.3 are applicable to the Containment Leakage Rate Testing Program.

f. Nothing in these Technical Specifications shall be construed to modify the testing Frequencies required by 10 CFR 50, Appendix J.

5.5.17 Battery Monitoring and Maintenance Program

This Program provides for battery restoration and maintenance, based on [the recommendations of IEEE Standard 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," or of the battery manufacturer] including the following:

a. Actions to restore battery cells with float voltage < [2.13] V, and

b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the minimum established design limit.

Insert 5A

5.6 Reporting Requirements

5.6.7 Post Accident Monitoring Report

When a report is required by Condition B or G of LCO 3.3.[3], "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

5.6.8 [Tendon Surveillance Report

Any abnormal degradation of the containment structure detected during the tests required by the Pre-stressed Concrete Containment Tendon Surveillance Program shall be reported to the NRC within 30 days. The report shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, and the corrective action taken.]

5.6.9 [Steam Generator Tube Inspection Report]

- REVIEWER'S NOTES -

1. Reports required by the Licensee's current licensing basis regarding steam generator tube surveillance requirements shall be included here. An appropriate administrative controls format should be used.

2. These reports may be required covering inspection, test, and maintenance activities. These reports are determined on an individual basis for each unit and their preparation and submittal are designated in the Technical Specifications.

REVISION HISTORY

REVISION	TSTF	DESCRIPTION	APPROVED
2.1	TSTF-419	Revise PTLR Definition and References in ISTS 5.6.6, RCS PTLR	03/21/02

Insert 6.B

B 3.7 PLANT SYSTEMS

B 3.7.10 *Control Room Emergency Filtration System (CREFS)*

BASES

BACKGROUND

The CREFS provides a protected environment from which operators can control the unit following an uncontrolled release of radioactivity[, chemicals, or toxic gas].

The CREFS consists of two independent, redundant trains that recirculate and filter the control room air. Each train consists of a prefilter or demister, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Ductwork, valves or dampers, and instrumentation also form part of the system, as well as demisters to remove water droplets from the air stream. A second bank of HEPA filters follows the adsorber section to collect carbon fines and provide backup in case of failure of the main HEPA filter bank.

The CREFS is an emergency system, parts of which may also operate during normal unit operations in the standby mode of operation. Upon receipt of the actuating signal(s), normal air supply to the control room is isolated, and the stream of ventilation air is recirculated through the system filter trains. The prefilters or demisters remove any large particles in the air, and any entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers. Continuous operation of each train for at least 10 hours per month, with the heaters on, reduces moisture buildup on the HEPA filters and adsorbers. Both the demister and heater are important to the effectiveness of the charcoal adsorbers.

Actuation of the CREFS places the system in either of two separate states (emergency radiation state or toxic gas isolation state) of the emergency mode of operation, depending on the initiation signal. Actuation of the system to the emergency radiation state of the emergency mode of operation, closes the unfiltered outside air intake and unfiltered exhaust dampers, and aligns the system for recirculation of the control room air through the redundant trains of HEPA and the charcoal filters. The emergency radiation state also initiates pressurization and filtered ventilation of the air supply to the control room.

Outside air is filtered, diluted with building air from the electrical equipment and cable spreading rooms, and added to the air being recirculated from the control room. Pressurization of the control room minimizes → prevents infiltration of unfiltered air from the surrounding areas of the

BASES

BACKGROUND (continued)

building. The actions taken in the toxic gas isolation state are the same, except that the signal switches control room ventilation to an isolation alignment to prevent outside air from entering the control room.

[The air entering the control room is continuously monitored by radiation and toxic gas detectors. One detector output above the setpoint will cause actuation of the emergency radiation state or toxic gas isolation state, as required. The actions of the toxic gas isolation state are more restrictive, and will override the actions of the emergency radiation state.]

A single train will pressurize the control room to about [0.125] inches water gauge. The CREFS operation in maintaining the control room habitable is discussed in the FSAR, Section [6.4] (Ref. 1).

Redundant supply and recirculation trains provide the required filtration should an excessive pressure drop develop across the other filter train. Normally open isolation dampers are arranged in series pairs so that the failure of one damper to shut will not result in a breach of isolation. The CREFS is designed in accordance with Seismic Category I requirements.

The CREFS is designed to maintain the control room environment for 30 days of continuous occupancy after a Design Basis Accident (DBA) without exceeding a 5 rem whole body dose or its equivalent to any part of the body. [or 5 rem TEDE per GDC-19]

APPLICABLE SAFETY ANALYSES

The CREFS components are arranged in redundant, safety related ventilation trains. The location of components and ducting within the control room envelope ensures an adequate supply of filtered air to all areas requiring access. The CREFS provides airborne radiological protection for the control room operators, as demonstrated by the control room accident dose analyses for the most limiting design basis loss of coolant accident, fission product release presented in the FSAR, Chapter [15] (Ref. 2).

The analysis of toxic gas releases demonstrates that the toxicity limits are not exceeded in the control room following a toxic chemical release, as presented in Reference 1.

The worst case single active failure of a component of the CREFS, assuming a loss of offsite power, does not impair the ability of the system to perform its design function.

BASES

APPLICABLE SAFETY ANALYSES (continued)

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

LCO

Two independent and redundant CREFS trains are required to be OPERABLE to ensure that at least one is available assuming a single failure disables the other train. Total system failure could result in exceeding a dose of 5 rem to the control room operator in the event of a large radioactive release.

Insert 8

The CREFS is considered OPERABLE when the individual components necessary to limit operator exposure are OPERABLE in both trains. A CREFS train is OPERABLE when the associated:

a. Fan is OPERABLE,

b. HEPA filters and charcoal adsorbers are not excessively restricting flow, and are capable of performing their filtration functions, and

c. Heater, demister, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

Insert 9

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

The LCO is modified by a Note allowing the control room boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room isolation is indicated.

Insert 10

APPLICABILITY

In MODES 1, 2, 3, 4, [5, and 6,] and during movement of [recently] irradiated fuel assemblies, CREFS must be OPERABLE to control operator exposure during and following a DBA.

In [MODE 5 or 6], the CREFS is required to cope with the release from the rupture of an outside waste gas tank.

During movement of [recently] irradiated fuel assemblies, the CREFS must be OPERABLE to cope with the release from a fuel handling accident [involving handling recently irradiated fuel]. [The CREFS is only

BASES

APPLICABILITY (continued)

required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [ ] days), due to radioactive decay.]

ACTIONS

A.1

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

Insert 3B

D B.1

D - 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. D

If the control room boundary is inoperable in MODE 1, 2, 3, or 4, the CREFS 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.

One or more

inoperable

Insert 7

BASES

ACTIONS (continued)

E ~~C~~.1 and ~~C~~.2

In MODE 1, 2, 3, or 4, if the inoperable CREFS train or control room boundary cannot be restored to OPERABLE status within the required Completion Time, the unit must be placed in a MODE that minimizes 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.

F ~~D~~.1 and ~~D~~.2

[In MODE 5 or 6, or] during movement of [recently] irradiated fuel assemblies, if the inoperable CREFS train cannot be restored to OPERABLE status within the required Completion Time, action must be taken to immediately place the OPERABLE CREFS train in the emergency mode. This action ensures that the remaining train is OPERABLE, that no failures preventing automatic actuation will occur, and that any active failure would be readily detected.

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 risk. This does not preclude the movement of fuel to a safe position.

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

G ~~E~~.1

for reasons other than Condition B

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

H ~~F~~.1

or D

If both CREFS trains are inoperable in MODE 1, 2, 3, or 4 for reasons other than an inoperable control room boundary (i.e., Condition ~~B~~), the

BASES

ACTIONS (continued)

CREFS 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.

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1

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

SR 3.7.10.2

This SR verifies that the required CREFS testing is performed in accordance with the [Ventilation Filter Testing Program (VFTP)]. The [VFTP] includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the [VFTP].

SR 3.7.10.3

This SR verifies that each CREFS train starts and operates on an actual or simulated actuation signal. The Frequency of [18] months is specified in Regulatory Guide 1.52 (Ref. 3).

SR 3.7.10.4

Capability of the CREFS to pressurize the control room envelope.

This SR verifies the integrity of the control room enclosure, and the assumed inleakage rates of the potentially contaminated air. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify proper functioning of the CREFS. During the emergency mode of operation, the CREFS 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 CREFS is designed to maintain this positive pressure with one train at a makeup flow rate of [3000] cfm. The

this

minimize

BASES

SURVEILLANCE REQUIREMENTS (continued)

Insert 4B

Frequency of [18] months on a STAGGERED TEST BASIS is consistent with the guidance provided in NUREG-0800 (Ref. 4).

REFERENCES

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

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.

for reasons other than Condition B or D

ACTIONS

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

for reasons other than Condition B

Insert 1C

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Required Action and associated Completion Time of Condition A not met [in MODES 5 and 6, or] during movement of [recently] irradiated fuel assemblies.	F.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	
	F.2 Suspend movement of [recently] irradiated fuel assemblies.	Immediately
G. Two CREACS trains inoperable [in MODES 5 and 6, or] during movement of [recently] irradiated fuel assemblies for reasons other than Condition B	G.1 Suspend movement of [recently] irradiated fuel assemblies.	Immediately
H. Two CREACS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B or D.	H.1 Enter LCO 3.0.3.	Immediately

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

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.11.2	Perform required CREACS filter testing in accordance with [Ventilation Filter Testing Program (VFTP)].	In accordance with the [VFTP]
SR 3.7.11.3	Verify each CREACS train actuates on an actual or simulated actuation signal.	[18] months
SR 3.7.11.4	Verify one CREACS train can maintain a positive pressure of > [0.125] inches water gauge, relative to the adjacent [area] during the emergency radiation state of the emergency mode of operation at a emergency ventilation flow rate of ≤ [3000] cfm.	[18] months on a STAGGERED TEST BASIS

Insert 2C

5.5 Programs and Manuals

5.5.16 Containment Leakage Rate Testing Program (continued)

a) Overall air lock leakage rate is ≤ [0.05 L_a] when tested at ≥ P_a.

b) For each door, leakage rate is ≤ [0.01 L_a] when pressurized to [>10 psig].

e. The provisions of SR 3.0.3 are applicable to the Containment Leakage Rate Testing Program.

f. Nothing in these Technical Specifications shall be construed to modify the testing Frequencies required by 10 CFR 50, Appendix J.

5.5.17 Battery Monitoring and Maintenance Program

This Program provides for battery restoration and maintenance, based on [the recommendations of IEEE Standard 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," or of the battery manufacturer] including the following:

a. Actions to restore battery cells with float voltage < [2.13] V, and

b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the minimum established design limit.

Insert 5A

5.6 Reporting Requirements

5.6.7 Post Accident Monitoring Report (continued)

monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

5.6.8 Tendon Surveillance Report

[Any abnormal degradation of the containment structure detected during the tests required by the Pre-stressed Concrete Containment Tendon Surveillance Program shall be reported to the NRC within 30 days. The report shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, and the corrective action taken.]

5.6.9 Steam Generator Tube Inspector Report

- REVIEWER'S NOTES -

1. Reports required by the Licensee's current licensing basis regarding steam generator tube surveillance requirements shall be included here. An appropriate administrative controls format should be used.

2. These reports may be required covering inspection, test, and maintenance activities. These reports are determined on an individual basis for each unit and their preparation and submittal are designated in the Technical Specifications.

Insert 6C

B 3.7 PLANT SYSTEMS

B 3.7.11 *Control Room Emergency Air Cleanup System (CREACS)*

BASES

BACKGROUND

The CREACS provides a protected environment from which operators can control the unit following an uncontrolled release of radioactivity, [chemicals, or toxic gas].

The CREACS consists of two independent, redundant trains that recirculate and filter the control room air. Each train consists of a prefilter and demister, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodine), and a fan. Ductwork, valves or dampers, and instrumentation also form part of the system, as do demisters that remove water droplets from the air stream. A second bank of HEPA filters follows the adsorber section to collect carbon fines, and to back up the main HEPA filter bank if it fails.

The CREACS is an emergency system, part of which may also operate during normal unit operations in the standby mode of operation. Upon receipt of the actuating signal(s), normal air supply to the control room is isolated, and the stream of ventilation air is recirculated through the filter trains of the system. The prefilters and demisters remove any large particles in the air, and any entrained water droplets present to prevent excessive loading of the HEPA filters and charcoal adsorbers. Continuous operation of each train for at least 10 hours per month with the heaters on reduces moisture buildup on the HEPA filters and adsorbers. Both the demister and heater are important to the effectiveness of the charcoal adsorbers.

Actuation of the CREACS places the system into either of two separate states of the emergency mode of operation, depending on the initiation signal. Actuation of the system to the emergency radiation state of the emergency mode of operation closes the unfiltered outside air intake and unfiltered exhaust dampers, and aligns the system for recirculation of control room air through the redundant trains of HEPA and charcoal filters. The emergency radiation state initiates pressurization and filtered ventilation of the air supply to the control room.

Outside air is filtered, [diluted with building air from the electrical equipment and cable spreading rooms,] and then added to the air being recirculated from the control room. Pressurization of the control room minimizes prevents infiltration of unfiltered air from the surrounding areas of the building. The actions taken in the toxic gas isolation state are the same,

BASES

BACKGROUND (continued)

except that the signal switches control room ventilation to an isolation mode, preventing outside air from entering the control room.

The air entering the control room is continuously monitored by radiation and toxic gas detectors. One detector output above the setpoint will cause actuation of the emergency radiation state or toxic gas isolation state as required. The actions of the toxic gas isolation state are more restrictive, and will override the actions of the emergency radiation state.

A single train will pressurize the control room to about [0.125] inches water gauge, and provides an air exchange rate in excess of 25% per hour. The CREACS operation in maintaining the control room habitable is discussed in the FSAR, Section [9.4] (Ref. 1).

Redundant supply and recirculation trains provide the required filtration should an excessive pressure drop develop across the other filter train. Normally open isolation dampers are arranged in series pairs so that the failure of one damper to shut will not result in a breach of isolation. The CREACS is designed in accordance with Seismic Category I requirements.

The CREACS is designed to maintain the control room environment for 30 days of continuous occupancy after a Design Basis Accident (DBA) without exceeding a 5 rem whole body dose or its equivalent to any part of the body. [or 5rem TEDE per GOC-19]

APPLICABLE SAFETY ANALYSES

The CREACS components are arranged in redundant safety related ventilation trains. The location of components and ducting within the control room envelope ensures an adequate supply of filtered air to all areas requiring access.

The CREACS provides airborne radiological protection for the control room operators, as demonstrated by the control room accident dose analyses for the most limiting design basis ~~loss of coolant~~ accident fission product release presented in the FSAR, Chapter [15] (Ref. 2).

The analysis of toxic gas releases demonstrates that the toxicity limits are not exceeded in the control room following a toxic chemical release, as presented in Reference 1.

The worst case single active failure of a component of the CREACS, assuming a loss of offsite power, does not impair the ability of the system to perform its design function.

BASES

APPLICABLE SAFETY ANALYSES (*continued*)

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

LCO

Two independent and redundant trains of the CREACS are required to be OPERABLE to ensure that at least one is available, assuming that a single failure disables the other train. Total system failure could result in a control room operator receiving a dose in excess of 5 rem in the event of a large radioactive release. Insert 8

The CREACS is considered OPERABLE when the individual components necessary to control operator exposure are OPERABLE in both trains. A CREACS train is considered OPERABLE when the associated:

a. Fan is OPERABLE,

b. HEPA filters and charcoal adsorber are not excessively restricting flow, and are capable of performing their filtration functions, and

c. Heater, demister, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors. Insert 9

The LCO is modified by a Note allowing the control room boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room isolation is indicated. Insert 10

APPLICABILITY

In MODES 1, 2, 3, and 4, the CREACS must be OPERABLE to limit operator exposure during and following a DBA.

In MODES [5 and 6], the CREACS is required to cope with the release from a rupture of an outside waste gas tank.

During movement of [recently] irradiated fuel assemblies, the CREACS must be OPERABLE to cope with the release from a fuel handling accident. [Due to radioactive decay, CREACS is only required to cope with fuel handling accidents involving handling recently irradiated fuel

BASES

APPLICABILITY (continued)

(i.e., fuel that has occupied part of a critical reactor core within the previous [ ] days).]

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.

Insert 3C

D B.1

D - 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. D

If the control room boundary is inoperable to MODES 1, 2, 3, and 4, the one or more CREACS trains cannot perform their intended functions. Actions must be taken to restore an inoperable 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 7

E C.1 and C.2 E

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

BASES

ACTIONS (continued)

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.

F F
D.1 and D.2

F
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.

the inoperable CREACS train
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.

restored

F
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.

G F.1

for reasons other than Condition B

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.

H F.1

or O

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.

SR 3.7.11.4

Capability of the CREACS to pressurize the control room envelope.

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 this 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).

minimize

Insert 4C

3.7 PLANT SYSTEMS

3.7.4 [Main Control Room Environmental Control (MCREC)] System

LCO 3.7.4 Two [MCREC] subsystems shall be OPERABLE.

- NOTE -

The main control room boundary may be opened intermittently under administrative control

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APPLICABILITY: MODES 1, 2, and 3,
During movement of [recently] irradiated fuel assemblies in the [secondary] containment,
During operations with a potential for draining the reactor vessel (OPDRVs).

for reasons other than Condition B or D

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One [MCREC] subsystem inoperable.	A.1 Restore [MCREC] subsystem to OPERABLE status.	7 days
B. Two [MCREC] subsystems inoperable due to inoperable control room boundary in MODE 1, 2, or 3.	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, or 3.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	12 hours 36 hours

One or more

D

for reasons other than Condition B

E

Insert 1D

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A not met during movement of [recently] irradiated fuel assemblies in the [secondary] containment or during OPDRVs.	**- NOTE -** LCO 3.0.3 is not applicable.	
	D.1 **- NOTE -** [Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.]	
	Place OPERABLE [MCREC] subsystem in [pressurization] mode.	Immediately
	OR	
	D.2.1 Suspend movement of [recently] irradiated fuel assemblies in the [secondary] containment.	Immediately
	AND	
	D.2.2 Initiate action to suspend OPDRVs.	Immediately
E. Two [MCREC] subsystems inoperable in MODE 1, 2, or 3 for reasons other than Condition B.	E.1 Enter LCO 3.0.3.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two [MCREC] subsystems inoperable during movement of [recently] irradiated fuel assemblies in the [secondary] containment or during OPDRVs.	**- NOTE -** LCO 3.0.3 is not applicable.	
	H F.1 Suspend movement of [recently] irradiated fuel assemblies in the [secondary] containment.	Immediately
	AND H F.2 Initiate action to suspend OPDRVs.	Immediately

For reasons other than Condition B

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.4.1	Operate each [MCREC] subsystem for [≥ 10 continuous hours with the heaters operating or (for systems without heaters) ≥ 15 minutes].	31 days
SR 3.7.4.2	Perform required [MCREC] filter testing in accordance with the [Ventilation Filter Testing Program (VFTP)].	In accordance with the [VFTP]
SR 3.7.4.3	Verify each [MCREC] subsystem actuates on an actual or simulated initiation signal.	[18] months
SR 3.7.4.4	[Verify each [MCREC] subsystem can maintain a positive pressure of ≥ [0.1] inches water gauge relative to the [turbine building] during the [pressurization] mode of operation at a flow rate of < [400] cfm.	[18] months on a STAGGERED TEST BASIS]

Insert 2D

5.5 Programs and Manuals

5.5.13 Primary Containment Leakage Rate Testing Program (continued)

leakage rate acceptance criteria are < 0.60 L_a for the Type B and C tests and [< 0.75 L_a for Option A Type A tests] [≤ 0.75 L_a for Option B type A tests].

2. Air lock testing acceptance criteria are:

a) Overall air lock leakage rate is ≤ [0.05 L_a] when tested at ≥ P_a.

b) For each door, leakage rate is ≤ [0.01 L_a] when pressurized to ≥ [10] psig.

e. The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

f. Nothing in these Technical Specifications shall be construed to modify the testing Frequencies required by 10 CFR 50, Appendix J.

5.5.14 Battery Monitoring and Maintenance Program

This Program provides for battery restoration and maintenance, based on [the recommendations of IEEE Standard 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," or of the battery manufacturer] including the following:

a. Actions to restore battery cells with float voltage < [2.13] V, and

b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the minimum established design limit.

Insert 5B

REVISION HISTORY

REVISION	TSTF	DESCRIPTION	APPROVED
2.1	TSTF-413	Elimination of Requirement for a Post Accident Sampling System (PASS)	03/27/02

5.6 Reporting Requirements

5.6.7 Post Accident Monitoring Report (continued)

monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

- REVIEWER'S NOTE -

These reports may be required covering inspection, test, and maintenance activities. These reports are determined on an individual basis for each unit and their preparation and submittal are designated in the Technical Specifications.

REVISION HISTORY

REVISION	TSTF	DESCRIPTION	APPROVED
2.1	TSTF-419	Revise PTLR Definition and References in ISTS 5.6.6, RCS PTLR	03/21/02

Insert 6D

B 3.7 PLANT SYSTEMS

B 3.7.4 [Main Control Room Environmental Control (MCREC)] System

BASES

BACKGROUND

The [MCREC] System provides a radiologically controlled environment from which the unit can be safely operated following a Design Basis Accident (DBA).

The safety related function of [MCREC] System includes two independent and redundant high efficiency air filtration subsystems for emergency treatment of recirculated air or outside supply air. Each subsystem consists of a demister, an electric heater, a prefilter, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section, a second HEPA filter, a booster fan, an air handling unit (excluding the condensing unit), and the associated ductwork and dampers. Demisters remove water droplets from the airstream. Prefilters and HEPA filters remove particulate matter, which may be radioactive. The charcoal adsorbers provide a holdup period for gaseous iodine, allowing time for decay.

The [MCREC] System is a standby system, parts of which also operate during normal unit operations to maintain the control room environment. Upon receipt of the initiation signal(s) (indicative of conditions that could result in radiation exposure to control room personnel), the [MCREC] System automatically switches to the pressurization mode of operation to prevent infiltration of contaminated air into the control room. A system of dampers isolates the control room, and a part of the recirculated air is routed through either of the two filter subsystems. Outside air is taken in at the normal ventilation intake and is mixed with the recirculated air before being passed through one of the charcoal adsorber filter subsystems for removal of airborne radioactive particles.

The [MCREC] System is designed to maintain the control room environment for a 30 day continuous occupancy after a DBA without exceeding 5 rem whole body dose or its equivalent to any part of the body. A single [MCREC] subsystem will pressurize the control room to about [0.1] inches water gauge to prevent infiltration of air from surrounding buildings. [MCREC] System operation in maintaining control room habitability is discussed in the FSAR, Chapters [6] and [9], (Refs. 1 and 2, respectively).

[or 5 rem TEDE per GOC-19]

minimize

BASES

APPLICABLE SAFETY ANALYSES

The ability of the [MCREC] System to maintain the habitability of the control room is an explicit assumption for the safety analyses presented in the FSAR, Chapters [6] and [15] (Refs. 1 and 3, respectively). The pressurization mode of the [MCREC] System is assumed to operate following a loss of coolant accident, fuel handling accident [involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [ ] days)], main steam line break, and control rod drop accident, as discussed in the FSAR, Section [6.4.1.2.2] (Ref. 4). The radiological doses to control room personnel as a result of the various DBAs are summarized in Reference 3. No single active or passive failure will cause the loss of outside or recirculated air from the control room.

The [MCREC] System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Two redundant subsystems of the [MCREC] System are required to be OPERABLE to ensure that at least one is available, assuming a single failure disables the other subsystem. Total system failure could result in exceeding a dose of 5 rem to the control room operators in the event of a DBA.

Insert 8

The [MCREC] System is considered OPERABLE when the individual components necessary to control operator exposure are OPERABLE in both subsystems. A subsystem is considered OPERABLE when its associated:

a. Fan is OPERABLE,

b. HEPA filter and charcoal adsorbers are not excessively restricting flow and are capable of performing their filtration functions, and

c. Heater, demister, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

Insert 9

The LCO is modified by a Note allowing the main control room boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the main control room. This individual

Insert 10

BASES

LCO (continued)

will have a method to rapidly close the opening when a need for main control room isolation is indicated.

APPLICABILITY

In MODES 1, 2, and 3, the [MCREC] System must be OPERABLE to control operator exposure during and following a DBA, since the DBA could lead to a fission product release.

In MODES 4 and 5, the probability and consequences of a DBA are reduced because of the pressure and temperature limitations in these MODES. Therefore, maintaining the [MCREC] System OPERABLE is not required in MODE 4 or 5, except for the following situations under which significant radioactive releases can be postulated:

a. During operations with potential for draining the reactor vessel (OPDRVs); and

b. During movement of [recently] irradiated fuel assemblies in the [secondary] containment. [Due to radioactive decay, the MCREC System is only required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [ ] days).]

ACTIONS

A.1

With one [MCREC] subsystem inoperable, the inoperable [MCREC] subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE [MCREC] subsystem is adequate to perform control room radiation protection. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced [MCREC] System capability. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and that the remaining subsystem can provide the required capabilities.

Insert 3D

D B.1

D - 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. D

BASES

ACTIONS (continued)

If the main control room boundary is inoperable in MODE 1, 2, or 3, the MCREC trains cannot perform their intended functions. Actions must be taken to restore an OPERABLE main control room boundary within 24 hours. During the period that the main 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 main control room boundary.

E. C.1 and C.2

In MODE 1, 2, or 3, if the inoperable [MCREC] subsystem or control room boundary cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE that minimizes risk. To achieve this status, the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 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.

F D.1, D.2.1 and D.2.2

The Required Actions of Condition D are modified by a Note indicating that LCO 3.0.3 does not apply. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of [recently] irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

During movement of [recently] irradiated fuel assemblies in the [secondary] containment or during OPDRVs, if the inoperable [MCREC] subsystem cannot be restored to OPERABLE status within the required Completion Time, the OPERABLE [MCREC] subsystem may be placed in the pressurization mode. This action ensures that the remaining subsystem is OPERABLE, that no failures that would prevent automatic actuation will occur, and that any active failure will be readily detected.

BASES

ACTIONS (continued)

Required Action F.1 is modified by a Note alerting the operator to [place the system in the toxic gas protection mode if the toxic gas automatic transfer capability is inoperable].

An alternative to Required Action F.1 is to immediately suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk.

If applicable, movement of [recently] irradiated fuel assemblies in the [secondary] containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

G E.1

If both [MCREC] subsystems are inoperable in MODE 1, 2, or 3 for reasons other than an inoperable control room boundary (i.e., Condition B), the [MCREC] System 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.

or D

H F.1 and F.2

The Required Actions of Condition H are modified by a Note indicating that LCO 3.0.3 does not apply. If moving [recently] irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of [recently] irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

For reasons other than Condition B

During movement of [recently] irradiated fuel assemblies in the [secondary] containment or during OPDRVs, with two [MCREC] subsystems inoperable, action must be taken immediately to suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk.

If applicable, movement of [recently] irradiated fuel assemblies in the [secondary] containment must be suspended immediately. Suspension

BASES

ACTIONS (continued)

of these activities shall not preclude completion of movement of a component to a safe position. If applicable, actions must be initiated immediately to suspend OPDVRs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

SURVEILLANCE REQUIREMENTS

SR 3.7.4.1

This SR verifies that a subsystem in a standby mode starts on demand and continues to operate. Standby systems should be checked periodically to ensure that they start and function properly. As the environmental and normal operating conditions of this system are not severe, testing each subsystem once every month provides an adequate check on this system. Monthly heater operation dries out any moisture that has 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.] Furthermore, the 31 day Frequency is based on the known reliability of the equipment and the two subsystem redundancy available.

SR 3.7.4.2

This SR verifies that the required [MCREC] 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 3.7.4.3

This SR verifies that on an actual or simulated initiation signal, each [MCREC] subsystem starts and operates. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.7.1.5 overlaps this SR to provide complete testing of the safety function. The [18] month Frequency is specified in Reference 5.

[SR 3.7.4.4

capability of the [MCREC] System to pressurize the control room envelope.

This SR verifies the integrity of the control room enclosure and the assumed inleakage rates of potentially contaminated air. The control

BASES

SURVEILLANCE REQUIREMENTS (continued)

room positive pressure, with respect to potentially contaminated adjacent areas (the turbine building), is periodically tested to verify proper function of the [MCREC] System. During the emergency mode of operation, the [MCREC] System is designed to slightly pressurize the control room ≥ [0.1] inches water gauge positive pressure with respect to the turbine building to prevent unfiltered inleakage. The [MCREC] System is designed to maintain this positive pressure at a flow rate of ≤ [400] cfm to the control room in the pressurization mode. The Frequency of [18] months on a STAGGERED TEST BASIS is consistent with industry practice and other filtration systems SRs.]

REFERENCES

1. FSAR, Chapter [6].
2. FSAR, Chapter [9].
3. FSAR, Chapter [15].
4. FSAR, Section [6.4.1.2.2].
5. Regulatory Guide 1.52, Rev. [2].

3.7 PLANT SYSTEMS

3.7.3 [Control Room Fresh Air (CRFA)] System

LCO 3.7.3 Two [CRFA] subsystems shall be OPERABLE.

- NOTE -

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

APPLICABILITY: MODES 1, 2, and 3,
During movement of [recently] irradiated fuel assemblies in the [primary or secondary containment],
During operations with a potential for draining the reactor vessel (OPDRVs).

for reasons other than Condition B or D

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One [CRFA] subsystem inoperable.	A.1	Restore [CRFA] subsystem to OPERABLE status.	7 days
D B. One or more Two [CRFA] subsystems inoperable due to inoperable control room boundary in MODE 1, 2, or 3.	B.1 D	Restore control room boundary to OPERABLE status. for reasons other than Condition B	24 hours
E C. Required Action and Associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	E C.1	Be in MODE 3.	12 hours
	AND		
	E C.2	Be in MODE 4.	36 hours

Insert 1E

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and F associated Completion Time of Condition A not met during movement of [recently] irradiated fuel assemblies in the [primary or secondary containment] or during OPDRVs.	---------- **- NOTE -** LCO 3.0.3 is not applicable. ----------	
	D.1 F ---------- **- NOTE -** [Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.] ---------- Place OPERABLE [CRFA] subsystem in [isolation] mode.	Immediately
	OR	
	D.2.1 F Suspend movement of [recently] irradiated fuel assemblies in the [primary and secondary containment].	Immediately
	AND	
	D.2.2 F Initiate action to suspend OPDRVs.	Immediately
E. Two [CRFA] subsystems F inoperable in MODE 1, G 2, or 3 for reasons other than Condition B.	E.1 G Enter LCO 3.0.3. (or D)	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two [CRFA] subsystems inoperable during movement of [recently] irradiated fuel assemblies in the [primary or secondary containment] or during OPDRVs. for reasons other than Condition B	**- NOTE -** LCO 3.0.3 is not applicable.	
	F.1 Suspend movement of [recently] irradiated fuel assemblies in the [primary and secondary containment].	Immediately
	AND	
	F.2 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Operate each [CRFA] subsystem for [≥ 10 continuous hours with the heaters operating or (for systems without heaters) ≥ 15 minutes].	31 days
SR 3.7.3.2	Perform required [CRFA] filter testing in accordance with the [Ventilation Filter Testing Program (VFTP)].	In accordance with the [VFTP]
SR 3.7.3.3	Verify each [CRFA] subsystem actuates on an actual or simulated initiation signal.	[18] months
SR 3.7.3.4	[Verify each [CRFA] subsystem can maintain a positive pressure of ≥ [ ] inches water gauge relative to [adjacent buildings] during the [isolation] mode of operation at a flow rate of ≤ [ ] cfm.	[18] months on a STAGGERED TEST BASIS]

Insert 2E

5.5 Programs and Manuals

5.5.13 Primary Containment Leakage Rate Testing Program (continued)

leakage rate acceptance criteria are < 0.60 L_a for the Type B and C tests and [< 0.75 L_a for Option A Type A tests] [≤ 0.75 L_a for Option B type A tests].

2. Air lock testing acceptance criteria are:

a) Overall air lock leakage rate is ≤ [0.05 L_a] when tested at ≥ P_a.

b) For each door, leakage rate is ≤ [0.01 L_a] when pressurized to [≥ 10 psig].

e. The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

f. Nothing in these Technical Specifications shall be construed to modify the testing Frequencies required by 10 CFR 50, Appendix J.

5.5.14 Battery Monitoring and Maintenance Program

This Program provides for battery restoration and maintenance, based on [the recommendations of IEEE Standard 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," or of the battery manufacturer] including the following:

a. Actions to restore battery cells with float voltage < [2.13] V, and

b. Actions to equalize and test battery cells that had been discovered with electrolyte level below the minimum established design limit.

Insert 5C

REVISION HISTORY

REVISION	TSTF	DESCRIPTION	APPROVED
2.1	TSTF-413	Elimination of Requirements for a Post Accident Sampling System (PASS)	03/27/02

5.6 Reporting Requirements

5.6.7 Post Accident Monitoring Report (*continued*)

of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

5.6.8 [Tendon Surveillance Report

Any abnormal degradation of the containment structure detected during the tests required by the Pre-Stressed Concrete Containment Tendon Surveillance Program shall be reported to the NRC within 30 days. The report shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, and the corrective action taken.]

- REVIEWER'S NOTES -

These reports may be required covering inspection, test, and maintenance activities. These reports are determined on an individual basis for each unit and their preparation and submittal are designated in the Technical Specifications.

REVISION HISTORY

REVISION	TSTF	DESCRIPTION	APPROVED
2.1	TSTF-419	Revise PTLR Definition and References in ISTS 5.6.6, RCS PTLR	03/21/02

Insert 6E

B 3.7 PLANT SYSTEMS

B 3.7.3 [Control Room Fresh Air (CRFA)] System

BASES

BACKGROUND

The [CRFA] System provides a radiologically controlled environment from which the unit can be safely operated following a Design Basis Accident (DBA).

The safety related function of the [CRFA] System used to control radiation exposure consists of two independent and redundant high efficiency air filtration subsystems for treatment of recirculated air or outside supply air. Each subsystem consists of a demister, an electric heater, a prefilter, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section, a second HEPA filter, a fan, and the associated ductwork and dampers. Demisters remove water droplets from the airstream. Prefilters and HEPA filters remove particulate matter that may be radioactive. The charcoal adsorbers provide a holdup period for gaseous iodine, allowing time for decay.

In addition to the safety related standby emergency filtration function, parts of the [CRFA] System are operated to maintain the control room environment during normal operation. Upon receipt of the initiation signal(s) (indicative of conditions that could result in radiation exposure to control room personnel), the [CRFA] System automatically switches to the isolation mode of operation to prevent infiltration of contaminated air into the control room. A system of dampers isolates the control room, and control room air flow is recirculated and processed through either of the two filter subsystems.

minimize

[or 5 rem TEDE per GDC-19]

The [CRFA] System is designed to maintain the control room environment for a 30 day continuous occupancy after a DBA, without exceeding a 5 rem whole body dose or its equivalent to any part of the body. [CRFA] System operation in maintaining the control room habitability is discussed in the FSAR, Sections [6.5.1] and [9.4.1] (Refs. 1 and 2, respectively).

APPLICABLE SAFETY ANALYSES

The ability of the [CRFA] System to maintain the habitability of the control room is an explicit assumption for the safety analyses presented in the FSAR, Chapters [6] and [15] (Refs. 3 and 4, respectively). The isolation mode of the [CRFA] System is assumed to operate following a loss of coolant accident, main steam line break, fuel handling accident [involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [ ] days)], and control rod drop

BASES

APPLICABLE SAFETY ANALYSES (continued)

accident. The radiological doses to control room personnel as a result of the various DBAs are summarized in Reference 4. No single active or passive failure will cause the loss of outside or recirculated air from the control room.

The [CRFA] System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Two redundant subsystems of the [CRFA] System are required to be OPERABLE to ensure that at least one is available, assuming a single failure disables the other subsystem. Total system failure could result in exceeding a dose of 5 rem to the control room operators in the event of a DBA.

Insert 8

The [CRFA] System is considered OPERABLE when the individual components necessary to control operator exposure are OPERABLE in both subsystems. A subsystem is considered OPERABLE when its associated:

a. Fan is OPERABLE,

b. HEPA filter and charcoal adsorber are not excessively restricting flow and are capable of performing their filtration functions, and

c. Heater, demister, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

Insert 9

The LCO is modified by a Note allowing the control room boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room isolation is indicated.

Insert 10

APPLICABILITY

In MODES 1, 2, and 3, the [CRFA] System must be OPERABLE to control operator exposure during and following a DBA, since the DBA could lead to a fission product release.

BASES

APPLICABILITY (continued)

In MODES 4 and 5, the probability and consequences of a DBA are reduced due to the pressure and temperature limitations in these MODES. Therefore, maintaining the [CRFA] System OPERABLE is not required in MODE 4 or 5, except for the following situations under which significant radioactive releases can be postulated:

a. During operations with a potential for draining the reactor vessel (OPDRVs); and

b. During movement of [recently] irradiated fuel assemblies in the [primary or secondary containment]. [Due to radioactive decay, the CRFA System is only required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within the previous [ ] days).]

ACTIONS

A.1

With one [CRFA] subsystem inoperable, the inoperable [CRFA] subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE [CRFA] subsystem is adequate to perform control room radiation protection. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in loss of [CRFA] System function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and that the remaining subsystem can provide the required capabilities.

Insert 3E → D ~~B~~.1

D - 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~~.D

one or more

If the control room boundary is inoperable in MODE 1, 2, or 3, the CRFA 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

inoperable

BASES

ACTIONS (continued)

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.

Inset 7

E C.1 and C.2

In MODE 1, 2, or 3, if the inoperable [CRFA] subsystem or control room boundary cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE that minimizes risk. To achieve this status, the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 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.

F D.1, D.2.1 and D.2.2

The Required Actions of Condition D are modified by a Note indicating that LCO 3.0.3 does not apply. If moving [recently] irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of [recently] irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

During movement of [recently] irradiated fuel assemblies in the [primary or secondary containment] or during OPDRVs, if the inoperable [CRFA] subsystem cannot be restored to OPERABLE status within the required Completion Time, the OPERABLE [CRFA] subsystem may be placed in the isolation mode. This action ensures that the remaining subsystem is OPERABLE, that no failures that would prevent automatic actuation will occur, and that any active failure will be readily detected.

Required Action D.1 is modified by a Note alerting the operator to [place the system in the toxic gas protection mode if the toxic gas, automatic transfer capability is inoperable].

An alternative to Required Action D.1 is to immediately suspend activities that present a potential for releasing radioactivity that might require

BASES

ACTIONS (continued)

isolation of the control room. This places the unit in a condition that minimizes risk.

If applicable, movement of [recently] irradiated fuel assemblies in the [primary and secondary containment] must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

G E.1

or D

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

H H
F.1 and F.2

H

The Required Actions of Condition F are modified by a Note indicating that LCO 3.0.3 does not apply. If moving [recently] irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of [recently] irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

for reasons other than Condition B

During movement of [recently] irradiated fuel assemblies in the [primary or secondary containment] or during OPDRVs, with two [CRFA] subsystems inoperable, action must be taken immediately to suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk.

If applicable, movement of [recently] irradiated fuel assemblies in the [primary and secondary containment] must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. If applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission

BASES

ACTIONS (continued)

product release. Actions must continue until the OPDRVs are suspended.

SURVEILLANCE REQUIREMENTS

SR 3.7.3.1

This SR verifies that a subsystem in a standby mode starts on demand and continues to operate. Standby systems should be checked periodically to ensure that they start and function properly. As the environmental and normal operating conditions of this system are not severe, testing each subsystem once every month provides an adequate check on this system. Monthly heater operation dries 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.] Furthermore, the 31 day Frequency is based on the known reliability of the equipment and the two subsystem redundancy available.

SR 3.7.3.2

This SR verifies that the required CRFA 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 3.7.3.3

This SR verifies that each [CRFA] subsystem starts and operates on an actual or simulated initiation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.7.1.5 overlaps this SR to provide complete testing of the safety function. The [18] month Frequency is specified in Reference 5.

SR 3.7.3.4

capability of the [CRFA] System to pressurize the control room envelope.

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 [CRFA] System. During the emergency mode of operation, the [CRFA] System is designed to slightly pressurize the control room to [0.1] inches water

this

BASES

SURVEILLANCE REQUIREMENTS (continued)

gauge positive pressure with respect to adjacent areas to prevent unfiltered inleakage. The [CRFA] System is designed to maintain this positive pressure at a flow rate of [500] cfm to the control room in the isolation mode. The Frequency of [18] months on a STAGGERED TEST BASIS is consistent with industry practice and other filtration system SRs.

Insert 4E

Minimize

REFERENCES

1. FSAR, Section [6.5.1].
2. FSAR, Section [9.4.1].
3. FSAR, Chapter [6].
4. FSAR, Chapter [15].
5. Regulatory Guide 1.52, Rev. [2].