J. Barnie Beasley, Jr., P.E.
Vice President
Vogtle Project

Southern Nuclear Operating Company, Inc.
40 Inverness Center Parkway
P.O. Box 1295
Birmingham, Alabama 35201

Tel 205.992.7110
Fax 205.992.0403

SOUTHERN COMPANY
Energy to Serve Your World℠

November 6, 2000

LCV-1455

Docket Nos. 50-424
50-425

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

Ladies and Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
REQUEST TO REVISE TECHNICAL SPECIFICATIONS
CONTROL ROOM EMERGENCY FILTRATION SYSTEM
PIPING PENETRATION AREA FILTRATION AND EXHAUST SYSTEM

In accordance with the requirements of 10 CFR 50.90, Southern Nuclear Operating Company (SNC) proposes to revise the Vogtle Electric Generating Plant (VEGP) Unit 1 and Unit 2 Technical Specifications (TS). Limiting Conditions for Operation (LCO) 3.7.10, Control Room Emergency Filtration System (CREFS) – Both Units Operating, LCO 3.7.11, CREFS – One Unit Operating, and LCO 3.7.13, Piping Penetration Area Filtration and Exhaust System (PPAFES) and associated Bases will be revised to address degraded pressure boundaries. The changes proposed for the VEGP TS are based on Industry/Technical Specification Task Force (TSTF) Standard Technical Specification (STS) Change Traveler TSTF-287, Revision 5, which was approved by the NRC by letter dated March 16, 2000. The changes approved with TSTF-287, Revision 5, revise the STS to allow the pressure boundaries of ventilation systems (such as the CREFS and PPAFES) to be opened intermittently under administrative control, and a new Condition is added that allows 24 hours to restore the capability to maintain proper pressure before requiring the unit to perform an orderly shutdown. Prior to TSTF-287, Revision 5, if a ventilation system pressure boundary was inoperable, both trains of the ventilation system would be unable to perform their function, and, since there was no applicable STS Condition, entry into LCO 3.0.3 would be required.

The proposed changes and their basis are described in Enclosure 1. An evaluation demonstrating that the proposed changes do not involve a significant hazard as defined in 10 CFR 50.92 is provided in Enclosure 2. Marked-up TS and Bases pages are provided in Enclosure 3, and clean-typed TS and Bases pages are provided in Enclosure 4.

A045

SNC requests approval of the proposed changes by May 1, 2001.

Mr. J. B. Beasley, Jr. states that he is a Vice President of Southern Nuclear Operating Company and is authorized to execute this oath on behalf of Southern Nuclear Operating Company and that, to the best of his knowledge and belief, the facts set forth in this letter are true.

SOUTHERN NUCLEAR OPERATING COMPANY

By: _____
J. B. Beasley, Jr.

Sworn to and subscribed before me this 6th *day of* November, *2000.*

_____
Notary Public

My commission expires: 11/10/02

JBB/NJS

Enclosure 1: Basis for Proposed Changes
Enclosure 2: No Significant Hazard Consideration Evaluation
Enclosure 3: Marked-up TS and Bases Pages
Enclosure 4: Clean-typed TS and Bases Pages

xc: Southern Nuclear Operating Company
Mr. J. T. Gasser
Mr. M. Sheibani
SNC Document Management

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. R. R. Assa, Project Manager, NRR
Mr. John Zeiler, Senior Resident Inspector, Vogtle

State of Georgia
Mr. L. C. Barrett, Commissioner, Department of Natural Resources

Enclosure 1
Vogtle Electric Generating Plant
Request to Revise Technical Specifications
Control Room Emergency Filtration System
Piping Penetration Area Filtration and Exhaust System

Basis for Proposed Changes

Proposed Changes

The proposed changes would revise the Vogtle Electric Generating Plant (VEGP) Unit 1 and Unit 2 Technical Specifications (TS) Limiting Conditions for Operation (LCO) 3.7.10, Control Room Emergency Filtration System (CREFS) – Both Units Operating, LCO 3.7.11, CREFS – One Unit Operating, and LCO 3.7.13, Piping Penetration Area Filtration and Exhaust System (PPAFES) and associated Bases to address degraded ventilation system pressure boundaries. The proposed changes are as follows:

- An LCO Note would be added to each of the above LCOs that would allow the affected ventilation system boundary to be opened under administrative control. The associated Bases would be revised to explain that, for entry and exit through doors, the person entering or exiting the area provides the administrative control. This is consistent with the manner in which ingress and egress through doors is handled today under current TS requirements. However, for other openings, a dedicated individual who is in continuous communication with the control room would be stationed at the opening. This person would have a means of rapidly closing the opening if a need for the affected ventilation system arises.

- If the CREFS or PPAFES pressure boundary is breached, the associated CREFS or PPAFES trains will be unable to perform their functions. LCOs 3.7.10 and 3.7.11 would be revised to add a new Condition for four CREFS trains inoperable due to an inoperable control room boundary. For LCO 3.7.10, the new Condition would be D and for LCO 3.7.11, the new Condition would be F. The associated Required Action would be to restore the control room to operable status, and the Completion Time would be 24 hours. LCO 3.7.13 would be revised to add a new Condition B to address two PPAFES trains inoperable due to an inoperable PPAFES boundary. The Required Action and Completion Time would be the same as for LCOs 3.7.10 and 3.7.11. Associated Bases will be added for the new Required Action. These Bases will explain that the Completion Time of 24 hours is based on the low probability of a design basis accident (requiring the ventilation system function) occurring during the 24-hour period and the use of compensatory measures.

- Both LCOs 3.7.10 and 3.7.11 contain Conditions addressing inoperable CREFS trains in various combinations. However, the inoperability addressed by these existing Conditions implicitly assumes an operable control room pressure boundary. This is reflected in the fact that the Required Actions are to place an operable CREFS train(s) in the emergency mode and/or to lock outside air intake dampers in the open or closed position, as appropriate. These Required Actions inherently assume that the pressure boundary is intact. In order to distinguish these existing Conditions from the new proposed Condition for an inoperable control room boundary, the existing Conditions would be revised to address CREFS train(s) that are inoperable due to reasons other than an inoperable control room boundary.

- The remaining existing Conditions and Required Actions of LCOs 3.7.10, 3.7.11, and 3.7.13 would be revised to address the addition of the new Conditions. In particular, the Note that modifies existing Required Action E.1 of LCO 3.7.10 would be revised to include the new Condition D. Existing Required Action E.1 is intended for a single affected unit. If both units are affected by the inoperability, existing Required Action E.1 should not be applied. Since the new Condition of an

Basis for Proposed Changes

inoperable control room boundary affects both units, the new Condition is added to the Note, and the Bases are revised appropriately.

- Finally, during the review performed for this proposed change, it was discovered that there is a typographical error in Required Action E.1 of LCO 3.7.11. The word "operation" should be corrected to "operating."

Basis

By letter dated March 16, 2000, the NRC staff approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler TSTF-287, Revision 5. This traveler revised the STS to provide specific Conditions and Required Actions for room/barrier degradation (as opposed to ventilation train degradation). The STS contain Surveillance Requirements (SRs) that test the integrity of the room/barrier by requiring a positive or negative pressure limit to be satisfied in the area with one required ventilation train operating. While other SRs in the same specification test the operability of the ventilation train, these barrier surveillances ensure the envelope leak tightness is adequate to meet the design assumptions. However, prior to TSTF-287, Revision 5, there were no corresponding Conditions, Required Actions, or Completion Times associated with failure to meet these barrier surveillances. Therefore, failure to meet the requirements for a leak tight boundary would render all affected ventilation trains inoperable, and entry into LCO 3.0.3 would be required. The changes approved with TSTF-287, Revision 5, allow 24 hours (during operating Modes) to restore the capability to maintain proper pressure before requiring the unit to perform an orderly shutdown. In addition, the changes allow for intermittent opening of barriers under administrative control. The general basis for the changes approved with TSTF-287, Revision 5, was that requiring the plant to enter LCO 3.0.3 when the ventilation envelope is not intact is excessive and, in some cases, may not be appropriate. In addition, because of the low probability of a design Basis accident during the 24-hour period and reliance on compensatory measures, the changes were determined to be acceptable.

Control Room Emergency Filtration System (CREFS): At VEGP, the CREFS consists of two redundant and physically separated air handling trains with a moisture eliminator, an electric preheater, high-efficiency particulate air (HEPA) filters, and charcoal adsorbers for each train to process intake airflow and recirculated airflow in the combined control room. There are physically separated outside air intakes for the Unit 1 CREFS and the Unit 2 CREFS. In addition, each CREFS train is equipped with cooling coils supplied by the essential chilled water system to maintain control room temperature. Therefore, there are four 100 percent capacity trains serving the combined Unit 1 and Unit 2 control room areas. The CREFS is capable of maintaining the control room atmosphere in a condition suitable for prolonged occupancy throughout the duration of any one of the postulated accidents discussed in FSAR chapter 15. It provides the capability to detect smoke and airborne radioactivity and protect control room personnel from the potential adverse effects of smoke and airborne radioactivity. The CREFS can be manually actuated, or it will automatically actuate to its emergency mode of operation upon receipt of a safety injection signal or a signal from the control room air intake radiogas monitors. The CREFS is not required for toxic gas. Technical Specification LCOs 3.7.10 and 3.7.11 require four CREFS trains to be operable. In fact, the only time that four trains are not required to be operable is when both units have an average reactor coolant temperature $\leq$ 200 °F and there is no movement of irradiated fuel or core alterations in either unit (LCO 3.7.12). The requirements of LCOs 3.7.10, 3.7.11, and 3.7.12 are based on

Basis for Proposed Changes

a detailed evaluation of all of the different scenarios that could require control room isolation while both units are operating, only one unit is operating, or both units are shut down. Furthermore, with respect to LCOs 3.7.10 and 3.7.11, there is no Condition that addresses the inoperability of all four CREFS trains. Therefore, if the control room pressure boundary is not intact so that the required positive pressure (≥ 0.125 inches water gauge relative to the adjacent areas, SR 3.7.10.5) cannot be maintained, then all four CREFS trains are rendered inoperable, and TS LCO 3.0.3 must be entered for both Unit 1 and Unit 2. Requiring both units to enter LCO 3.0.3 when the control room pressure boundary is not intact does not provide time to perform required repairs or corrective maintenance activities.

The probability of an accident requiring control room isolation during a 24-hour period of control room pressure boundary inoperability is small. For the purpose of demonstrating compliance with 10 CFR 50, Appendix A, General Design Criterion (GDC) 19, the limiting source term used for calculating control room dose (with the exception of a fuel handling accident) is based on 100 percent core damage. For VEGP, the probability of an accident involving core damage (based on internal events) during a 24-hour period (both units added together) is approximately 1.3 E-07. Based on a review of the FSAR chapter 15 safety analyses for VEGP, those events which could result in control room doses that exceed GDC 19 without filtration are a control rod ejection accident, loss of coolant accident (LOCA), steam generator tube rupture (SGTR), locked reactor coolant pump (RCP) rotor, and main steam line break (MSLB). For VEGP, the probability of a LOCA during a 24-hour period is approximately 3.1 E-05, the probability of an SGTR is approximately 1.3 E-04, and the probability of an MSLB is approximately 2.7 E-05. In the history of the industry, there has never been a reported occurrence of a control rod ejection accident or a locked RCP rotor. Based solely on several thousand reactor years operating experience worldwide, a very conservative estimate of the probability of such an event would be on the order of 1.0 E-04 per year. For a 24-hour period, this would equate to a probability of less than 1.0 E-06. Therefore, the probability of a control rod ejection accident or a locked RCP rotor during a 24-hour period is negligible. Finally, consideration of a fuel handling accident will be precluded by the application of administrative controls that will prohibit the movement of irradiated fuel assemblies (in the fuel handling building and/or inside containment for a shutdown unit) and/or core alterations on a shutdown unit when the control room pressure boundary is not intact.

If any of these events were to occur during a period that the control room pressure boundary was inoperable, operating more than one CREFS train could mitigate the consequences. As stated above, the combined Unit 1 and Unit 2 control room area is served by four 100 percent capacity CREFS trains. With the pressure boundary intact, a single train is sufficient to maintain the required positive pressure (≥ 0.125 inches water gauge). With all four trains operating and the pressure boundary intact, the CREFS will be able to maintain a positive pressure significantly higher than 0.125 inches water gauge relative to the adjacent areas. Therefore, the combined capacity of all four trains provides considerable margin that could accommodate a relatively large breach of the pressure boundary. In addition, the control room area is equipped with self-contained breathing apparatus, the use of which would mitigate the radiological dose consequences due to iodine intake.

Compensatory measures to address the breach of the control room pressure boundary at VEGP will be implemented via administrative controls. When the control room pressure boundary is opened intermittently under administrative control for other than normal entry through doors, a dedicated individual will be stationed in the area. This individual will establish communication with the control

Basis for Proposed Changes

room and be able to rapidly restore the pressure boundary if needed. If the pressure boundary is inoperable requiring entry into proposed new Condition D for LCO 3.7.10 or new Condition F for LCO 3.7.11, compensatory measures involving operating more than one CREFS train and/or use of the self-contained breathing apparatus will be implemented via administrative controls. The measures necessary to ensure physical security will also be addressed.

Piping Penetration Area Filtration and Exhaust System (PPAFES): The PPAFES is part of the auxiliary building emergency ventilation system. The auxiliary building emergency ventilation system consists of two subsystems, which are the engineered safety feature (ESF) room coolers and the PPAFES. The ESF room coolers serve to maintain air temperature as required in rooms containing safety-related equipment during the following conditions: LOCA, loss-of-offsite power, and other postulated accidents including line rupture with release of radioactivity inside the building. The PPAFES functions to minimize the release of radioactivity by maintaining a negative pressure on the area it serves and by filtering the exhaust from the negative pressure boundary.

The proposed changes allowing the negative pressure boundary to be breached will not adversely impact the ability of the ESF room coolers to perform their function to maintain air temperatures as required in the rooms they serve. Therefore, any potential impact of the proposed changes is limited to radiological dose consequences. In April 1994, an event occurred on Unit 1 that deenergized exhaust dampers in both trains of the PPAFES, thereby rendering the PPAFES incapable of maintaining a negative pressure in the area it serves. (Reference Licensee Event Report 50-424/94-003, dated May 26, 1994.) In response to this event, a contribution to control room dose (with the CREFS pressure boundary intact and the PPAFES recirculation filtration function maintained) due to leakage from the emergency core cooling system post-LOCA was calculated assuming that the PPAFES could not maintain the required negative pressure. The offsite dose was not recalculated since the margin for the control room dose was bounding. The results showed that the control room dose remains less than 30 rem thyroid. Therefore, if an event were to occur during a 24-hour period in which the PPAFES pressure boundary was inoperable, control room dose would remain below GDC 19 limits and offsite dose would remain below 10 CFR 100 limits. Since the PPAFES is not shared between units, and assuming that only one unit's PPAFES negative pressure boundary is inoperable during any given 24-hour period, the probabilities for any of the events requiring the PPAFES would be half of the values previously discussed for the CREFS.

As with the CREFS, compensatory measures to address the breach of the PPAFES pressure boundary at VEGP will be implemented via administrative controls. When the PPAFES pressure boundary is opened intermittently under administrative control for other than normal entry through doors, a dedicated individual will be stationed in the area. This individual will establish communication with the control room and be able to rapidly restore the pressure boundary if needed. If the pressure boundary is inoperable requiring entry into proposed new Condition B for LCO 3.7.13, the PPAFES trains can be operated to provide filtering, albeit with potential unfiltered leakage. The measures necessary to ensure physical security will also be addressed.

Enclosure 2
Vogtle Electric Generating Plant
Request to Revise Technical Specifications
Control Room Emergency Filtration System
Piping Penetration Area Filtration and Exhaust System

Significant Hazard Consideration Evaluation

The proposed changes have been evaluated against the criteria of 10 CFR 50.92 as follows:

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

   No. The control room emergency filtration system (CREFS) and the piping penetration area filtration and exhaust system (PPAFES) are not assumed to be initiators of any analyzed accident. Therefore, the proposed changes do not affect the probability of any accident previously evaluated. The proposed changes for the CREFS and PPAFES Technical Specifications (TS) would permit the subject pressure boundaries to be opened intermittently under administrative control. Based on the proposed compensatory measures in the form of a dedicated individual who is in communication with the control room, and his ability to rapidly restore the pressure boundary, the capability to mitigate a design basis event will be maintained. In addition, the proposed changes would add a new condition that would permit a 24-hour period to take action to restore an inoperable pressure boundary to operable status, modify existing conditions to accommodate the new condition (so as to maintain the requirements of the existing conditions), and correct a typographical error. With respect to CREFS, the proposed changes do not involve a significant increase in the consequences of an accident previously evaluated based on the availability of a self-contained breathing apparatus to minimize radiological dose due to iodine and the ability to operate more than one train as the need arises to maintain positive pressure or at least maintain an outflow of air from the control room environment. With respect to the PPAFES, it has been demonstrated by analysis that a breach of the pressure boundary will not result in control room or offsite doses that exceed their respective limits. The correction of the typographical error is an administrative change that has no technical impact.

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

   No. The proposed changes for the CREFS and PPAFES TS would permit the subject pressure boundaries to be opened intermittently under administrative control. In addition, the proposed changes would add a new condition that would permit a 24-hour period to take action to restore an inoperable pressure boundary to operable status, modify existing conditions to accommodate the new condition (so as to maintain the requirements of the existing conditions), and correct a typographical error. The proposed changes do not alter the operation of the plant or any of its equipment, introduce any new equipment, or result in any new failure mechanisms or single failures. Therefore, there is no potential for a new accident and no changes to the way that an analyzed accident will progress. The correction of the typographical error is an administrative change that has no technical impact.

3. Do the proposed changes result in a significant reduction in a margin of safety?

   No. The proposed changes for the CREFS and PPAFES TS would permit the subject pressure boundaries to be opened intermittently under administrative control. In addition, the proposed changes would add a new condition that would permit a 24-hour period to take action to restore an inoperable pressure boundary to operable status, modify existing conditions to accommodate the new condition (so as to maintain the requirements of the existing conditions), and correct a typographical error. The proposed changes do not adversely affect the ability of the fission product barriers to perform their functions. The only safety-related equipment affected by the proposed changes is the

Significant Hazard Consideration Evaluation

CREFS and the PPAFES. It has been demonstrated by analysis that a breach in the pressure boundary of the PPAFES will not cause the control room or offsite doses to exceed their respective limits. Adequate compensatory measures are available to mitigate a breach in the CREFS pressure boundary. The probabilities of design bases accidents that would place demands on these systems during a period that the ventilation system pressure boundaries would be allowed to be inoperable have been shown to be negligible. In addition, the proposed changes avoid the potential of placing one or both units in TS Limiting Condition for Operation (LCO) 3.0.3 solely due to a breach of the ventilation system pressure boundary. The correction of the typographical error is an administrative change that has no technical impact.

Based on the above evaluation, the proposed changes do not involve a significant hazard as defined in 10 CFR 50.92.

Enclosure 3
Vogtle Electric Generating Plant
Request to Revise Technical Specifications
Control Room Emergency Filtration System
Piping Penetration Area Filtration and Exhaust System

Marked-up TS and Bases Pages

INSERT
LCO NOTE (LCOs 3.7.10 and 3.7.11)

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

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Filtration System (CREFS) - Both Units Operating

LCO 3.7.10 Four CREFS trains shall be OPERABLE.

INSERT LCO NOTE

APPLICABILITY: Both Units in MODES 1, 2, 3, or 4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREFS train inoperable due to reasons other than inoperable control room boundary.	A.1 Place one CREFS train in the unaffected unit in the emergency mode.	7 days
B. One CREFS train inoperable in each unit due to reasons other than inoperable control room boundary.	B.1 Place two OPERABLE CREFS trains in the emergency mode.	7 days
C. Two CREFS trains inoperable in one unit due to reasons other than inoperable control room boundary.	C.1 Place two CREFS trains in the unaffected unit in the emergency mode.	Immediately
~~D.~~ E. Control room air temperature not within limit.	——NOTE—— LCO 3.0.4 is not applicable.	
	~~D.~~ E.1 Restore control room air temperature to within limit.	7 days
D. Four CREFS trains inoperable due to inoperable control room boundary	D.1 Restore control room boundary to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time not met.	----------NOTE---------- LCO 3.0.4 is not applicable to the unaffected unit.	
	E.1 ----------NOTE---------- Required Action E.1 is not applicable when entering this Condition from Condition B, or D. ---------- Lock closed the outside air (OSA) intake dampers of the affected unit and lock open the OSA intake dampers of the unaffected unit.	1 hour
	AND	
	E.2 Place the affected units(s) in MODE 3.	7 hours
	AND	
	E.3 Place the affected unit(s) in MODE 5.	37 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Verify control room air temperature ≤ 85°F.	12 hours

(continued)

3.7 PLANT SYSTEMS

3.7.11 Control Room Emergency Filtration System (CREFS) - One Unit Operating

LCO 3.7.11 Four CREFS trains shall be OPERABLE.

INSERT LCO NOTE

APPLICABILITY: Only one Unit in MODES 1, 2, 3, or 4

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One CREFS train inoperable in operating unit due to reasons other than inoperable control room boundary.	A.1	Place one CREFS train in the shutdown unit in the emergency mode.	7 days
B. One CREFS train inoperable in shutdown unit due to reasons other than inoperable control room boundary.	B.1	Lock closed the outside air (OSA) intake dampers of the shutdown unit and lock open the OSA intake dampers of the operating unit.	7 days
	OR		
	B.2	Place one CREFS train in the operating unit in the emergency mode.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One CREFS train inoperable in each unit due to reasons other than inoperable control room boundary.	C.1	Lock closed the shutdown unit's OSA intake dampers and lock open the operating unit's OSA intake dampers.	7 days
	AND		
	C.2	Place the OPERABLE CREFS train in the shutdown unit in the emergency mode.	7 days
D. Two CREFS trains inoperable in operating unit due to reasons other than inoperable control room boundary.	D.1	Place both CREFS trains in the shutdown unit in the emergency mode.	Immediately
E. Two CREFS trains inoperable in shutdown unit due to reasons other than inoperable control room boundary.	E.1	Lock closed the OSA intake dampers of the shutdown unit and lock open the OSA intake dampers of the operating unit.	Immediately
	OR		
	E.2	Place both CREFS trains in the operating unit in the emergency mode.	Immediately
F. Four CREFS trains inoperable due to inoperable control room boundary	F.1	Restore control room boundary to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Control room air temperature not within limit.	----------NOTE---------- LCO 3.0.4 is not applicable. ----------	
	F.1 Restore control room air temperature to within limit.	7 days
G. Required Action and associated Completion Time not met for operating unit.	G.1 Place the unit in MODE 3.	6 hours
	AND	
	G.2 Place the unit in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.11.1	The Surveillance Requirements of Specification 3.7.10 are applicable.	In accordance with applicable SRs.

INSERT
LCO NOTE (LCO 3.7.13)

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

3.7 PLANT SYSTEMS

3.7.13 Piping Penetration Area Filtration and Exhaust System (PPAFES)

LCO 3.7.13 Two PPAFES trains shall be OPERABLE.

INSERT LCO NOTE

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

ACTIONS

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.13.1	Operate each PPAFES train for ≥ 15 minutes.	31 days
SR 3.7.13.2	Perform required PPAFES filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP

(continued)

INSERT
LCO NOTE BASES (LCO 3.7.10)

The LCO is modified by a Note allowing the control room boundary to be opened intermittently under administrative controls without requiring entry into the Condition for an inoperable pressure boundary. 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.

BASES

LCO (continued)

d. Cooling coils and associated temperature control equipment are capable of performing their function.

INSERT LCO NOTE BASES →

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

APPLICABILITY

In MODES 1, 2, 3, and 4, CREFS must be OPERABLE to control operator exposure and maintain control room temperature during and following a DBA.

ACTIONS

The following ACTIONS have been developed to take credit for the redundancy and inherent flexibility designed into the four 100% capacity CREFS trains. These ACTIONS were reviewed to ensure that the system function would be maintained under accident conditions coupled with a postulated single failure. The results of this review are documented in Reference 3.

A.1

due to reasons other than an inoperable control room boundary

With a single CREFS train inoperable, action must be taken to restore the CREFS train to OPERABLE status, or one train of CREFS in the unaffected unit must be placed in the emergency mode of operation 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 a loss of the CREFS function for the affected unit. Placing one CREFS train in the unaffected unit in the emergency mode of operation ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. The 7 day Completion Time is based on the low probability of an event occurring during this time interval that would require CREFS operation and the capability of the remaining OPERABLE CREFS train to provide protection for the control room.

(continued)

INSERT 1
NEW REQUIRED ACTION D.1 BASES (LCO 3.7.10)

D.1

If the control room boundary is inoperable in MODES 1, 2, 3, and 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) will be utilized to provide physical security and to protect control room operators from potential hazards such as radioactive contamination, smoke, temperature, and relative humidity. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. These preplanned measures will include, but not necessarily be limited to, suspension of movement of irradiated fuel assemblies and/or loads over irradiated fuel assemblies within the fuel handling building. 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 test, diagnose, plan, and possibly execute a repair of most problems with the control room boundary.

BASES

ACTIONS (continued)

B.1

With one CREFS train inoperable in each unit due to reasons other than an inoperable control room boundary, action must be taken to restore the CREFS trains to OPERABLE status or the two remaining OPERABLE CREFS trains must be placed in the emergency mode of operation within 7 days. In this condition, the remaining OPERABLE CREFS trains are adequate to perform the control room protection function for each unit. However, the overall reliability is reduced because a single failure in one of the OPERABLE CREFS trains could result in a loss of the CREFS function for the affected unit. Placing one CREFS train in the emergency mode of operation in each unit ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. The 7 day Completion Time is based on the low probability of an event occurring during this time interval that would require CREFS operation and the capability of the remaining OPERABLE CREFS trains to provide protection for the control room.

C.1

With two CREFS trains inoperable in one unit, action must be taken to protect the control room for the affected unit immediately. In this condition, there is no CREFS function for one unit. The two CREFS trains in the unaffected unit must be placed in the emergency mode of operation immediately. Placing two CREFS trains in the emergency mode of operation in the unaffected unit ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. Due to the loss of the CREFS function for one unit, the completion time of immediately is specified.

INSERT 1

E ~~D~~.1

With the control room air temperature outside its limit, action must be taken to restore the air temperature to within the limit within 7 days. If the control room air

(continued)

BASES

ACTIONS

E D.1 (continued)

temperature exceeds its limit, the ability of a single train of CREFS to maintain control room temperature after a CRI may be affected. The completion time of 7 days is reasonable considering the number of CREFS trains available to perform the required temperature control function and the low probability of an event occurring that would require the CREFS operation during that time.

The Required Actions are modified by a Note that states LCO 3.0.4 is not applicable. In consideration of the number of redundant CREFS trains available, the small variation in temperature expected between 12 hour surveillances, and the marginal impact small temperature variations may have on the ability of a CREFS train to maintain the control room temperature within limits, an exception to LCO 3.0.4 is applicable for this condition.

F F F E.1, E.2, and E.3

If the Required Actions and associated Completion Times of Conditions A, B, C, or D or E are not met, action must be taken to place the unit in a condition where the inoperable CREFS train(s) are no longer required. Locking closed the outside air (OSA) dampers in the affected unit and locking open the OSA dampers in the unaffected unit within 1 hour, ensure that all control room air intake is monitored by redundant radiogas monitors that actuate OPERABLE CREFS trains. The affected unit(s) must also be placed in MODE 3 within the following 6 hours and MODE 5 within the following 36 hours, which removes the requirement for control room protection in the event of an SI in the affected unit(s). These actions ensure that if the control room cannot be protected from all postulated accident and single failure conditions, the unit or units are placed in a MODE where the protection is no longer required. The allowed Completion Times are reasonable, based on operating experience, to perform the Required Actions and to reach the required unit conditions from full power conditions in an orderly manner without challenging unit systems.

All the Required Actions are modified by a Note that clarifies the application of LCO 3.0.4. Since the shutdown

(continued)

BASES

ACTIONS

F.1, F.2, and F.3 (continued)

actions may only apply to the affected unit and the unaffected unit may continue to operate, LCO 3.0.4 does not apply to the unaffected unit in this Condition.

Required Action F.1 is modified by a Note that excepts Conditions B, and D. Conditions B, and D affect both units, and Required Action F.1 is based on a single affected unit. Therefore, upon entry into Condition F from Condition B or D, only Required Actions F.2 and F.3 apply.

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1

The CREFS is required to maintain the control room temperature ≤ 85°F in the event of a CRI. The maintenance of the control room below this temperature ensures the operational requirements of equipment located in the control room will not be exceeded. To accomplish this function, the CREFS air flow is directed through cooling coils which are supplied by the Essential Chilled Water System. The design cooling capacity of the CREFS and the limitation of the normal control room ambient temperature (before CRI) ensure the capability of the CREFS to maintain the control room temperature within limit after a CRI. The control room temperature is verified every 12 hours, and operating experience has proven this Frequency to be adequate.

SR 3.7.10.2

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 operations with the heater control circuit energized allows the heaters to operate as necessary to reduce the humidity in the ambient air and ensure excessive moisture (> 70% relative humidity) is removed from the adsorber and HEPA filters. Systems with heaters must be operated for ≥ 10 continuous hours with the heater control circuit energized and flow (FI-12191,

(continued)

INSERT
LCO NOTE BASES (LCO 3.7.11)

The LCO is modified by a Note allowing the control room boundary to be opened intermittently under administrative controls without requiring entry into the Condition for an inoperable pressure boundary. 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.

B 3.7 PLANT SYSTEMS

B 3.7.11 Control Room Emergency Filtration System (CREFS— One Unit Operating

BASES

BACKGROUND

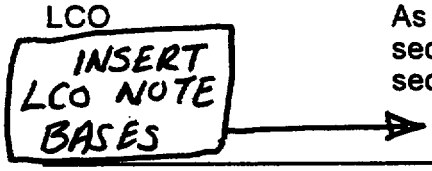
A description of the CREFS is provided in the Bases for LCO 3.7.10, "CREFS — Both Units Operating."

APPLICABLE SAFETY ANALYSES

The Applicable Safety Analyses section of the Bases for LCO 3.7.10 also applies to this Bases section.

The CREFS provides airborne radiological protection for the control room operators in the event of the most limiting design basis loss of coolant accident (LOCA) in the operating unit as well as for a design basis fuel handling accident in the shutdown unit.

LCO



As this LCO requires all four CREFS trains OPERABLE, the LCO section of the Bases for LCO 3.7.10 also applies to this Bases section.

APPLICABILITY

In MODES 1, 2, 3, and 4 the CREFS must be OPERABLE to control the operators' exposure to radiation and maintain the control room temperature during and following a design basis LOCA in the operating unit.

The LCO requirements and ACTIONS of this LCO bound the movement of irradiated fuel or CORE ALTERATIONS in the shutdown unit as well. During movement of irradiated fuel or CORE ALTERATIONS, the CREFS must be OPERABLE to control the operators' exposure to radiation and maintain the control room temperature during and following a design basis radiological release.

(continued)

BASES (continued)

ACTIONS

The following ACTIONS have been developed to take credit for the redundancy and inherent flexibility designed into the four 100% capacity CREFS trains.

These ACTIONS were reviewed to ensure that the system function would be maintained under accident conditions coupled with a postulated single failure. The results of this review are documented in Reference 1.

A.1

due to reasons other than an inoperable control room boundary

With a single CREFS train inoperable in the operating unit, action must be taken to restore the CREFS train to OPERABLE status or one CREFS train in the shutdown unit must be placed in the emergency mode of operation 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 a loss of the CREFS function for the operating unit. Placing one CREFS train in the shutdown unit in the emergency mode of operation ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. The 7 day Completion Time is based on the low probability of an event occurring during this time interval that would require CREFS operation and the capability of the remaining OPERABLE CREFS train to provide protection for the control room.

B.1 and B.2

With a single CREFS train inoperable in the shutdown unit, action must be taken to restore the CREFS train to OPERABLE status or lock closed the outside air (OSA) dampers in the shutdown unit and lock open the OSA dampers in the operating unit or one train of CREFS in the operating unit must be placed in the emergency mode of operation within 7 days.

In this condition the remaining OPERABLE CREFS train is adequate to perform the control room protection function.

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

However, the overall reliability is reduced because a single failure in the OPERABLE CREFS train could result in a loss of the CREFS function for the shutdown unit. Locking closed the OSA dampers in the shutdown unit and locking open the OSA dampers in the operating unit ensure that all control room air intake is monitored by redundant radiogas monitors that actuate OPERABLE CREFS trains. Placing one CREFS train in the operating unit in the emergency mode of operation ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. The 7 day Completion Time is based on the low probability of an event occurring during this time interval that would require CREFS operation and the capability of the remaining OPERABLE CREFS train to provide protection for the control room.

C.1 and C.2

due to reasons other than an inoperable control room boundary

With one CREFS train inoperable in each unit, action must be taken to restore the CREFS trains to OPERABLE status or lock close the OSA dampers in the shutdown unit and lock open the OSA dampers in the operating unit and place the OPERABLE CREFS train in the shutdown unit in the emergency mode within 7 days. Locking closed the OSA dampers in the shutdown unit and locking open the OSA dampers in the operating unit ensure that all control room air intake is monitored by redundant radiogas monitors that actuate an OPERABLE CREFS train. Placing the OPERABLE CREFS train of the shutdown unit in the emergency mode of operation ensures the control room remains protected for all postulated accident and single failure conditions.

In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. The 7 day Completion Time is based on the low probability of an event occurring during this time interval that would require CREFS operation and the capability of the remaining OPERABLE CREFS train to provide protection for the control room.

(continued)

INSERT 2
NEW REQUIRED ACTION F.1 BASES (LCO 3.7.11)

F.1

If the control room boundary is inoperable in MODES 1, 2, 3, and 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) will be utilized to provide physical security and to protect control room operators from potential hazards such as radioactive contamination, smoke, temperature, and relative humidity. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. These preplanned measures will include, but not necessarily be limited to, suspension of CORE ALTERATIONS and/or movement of irradiated fuel assemblies and/or loads over irradiated fuel assemblies. 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 test, diagnose, plan, and possibly execute a repair of most problems with the control room boundary.

BASES

ACTIONS (continued)

D.1

With two CREFS trains inoperable in the operating unit, action must be taken to place both CREFS trains in the shutdown unit in the emergency mode immediately. In this condition, there is no CREFS function for the operating unit. The two CREFS trains in the shutdown unit must be placed in the emergency mode of operation immediately. Placing two CREFS trains in the emergency mode of operation in the shutdown unit ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. Due to the loss of the CREFS function for one unit, the completion time of immediately is specified.

due to reasons other than an inoperable control room boundary

E.1 and E.2

With two trains inoperable in the shutdown unit, action must be taken to lock close the OSA dampers in the shutdown unit and lock open the OSA dampers in the operating unit or place both the operating unit CREFS trains in the emergency mode immediately. In this condition, there is no CREFS function for the shutdown unit. Locking closed the OSA dampers in the shutdown unit and locking open the OSA dampers in the operating unit ensure that all control room air intake is monitored by redundant radiogas monitors that actuate OPERABLE CREFS trains. Placing two CREFS trains in the emergency mode of operation in the operating unit ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. Due to the loss of the CREFS function for one unit, the completion time of immediately is specified.

INSERT 2

G F.1

With the control room air temperature outside its limit, action must be taken to restore the air temperature to within the limit within 7 days. If the control room air temperature exceeds its limit, the ability of a single train

(continued)

BASES

ACTIONS G F.1 (continued)

of CREFS to maintain control room temperature after a CRI may be affected. The completion time of 7 days is reasonable considering the number of CREFS trains available to perform the required temperature control function and the low probability of an event occurring that would require the CREFS operation during that time.

The Required Actions are modified by a Note that states LCO 3.0.4 is not applicable. In consideration of the number of redundant CREFS trains available, the small variation in temperature expected between 12 hour surveillances, and the marginal impact small temperature variations may have on the ability of a CREFS train to maintain the control room temperature within limits, an exception to LCO 3.0.4 is applicable for this condition.

H H
E.1 and E.2

If the Required Actions and associated Completion Times for the operating unit are not met, action must be taken to place the unit in a condition where the inoperable CREFS train(s) are no longer required. The operating unit must be placed in MODE 3 within 6 hours and MODE 5 within 36 hours, which removes the requirement for control room protection in the event of an SI in the operating unit. These actions ensure that if the control room cannot be protected from all postulated accident and single failure conditions, the unit is placed in a MODE where the protection is no longer required. The allowed Completion Times are reasonable, based on operating experience to reach the required unit conditions from full power conditions in an orderly manner without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.11.1

SR 3.7.11.1 requires that the SRs specified in LCO 3.7.10 be applicable for this LCO as well. The description and Frequencies of those required SRs are included in the Bases for LCO 3.7.10.

(continued)

INSERT
LCO NOTE BASES (LCO 3.7.13)

The LCO is modified by a Note allowing the PPAFES boundary to be opened intermittently under administrative controls without requiring entry into the Condition for an inoperable pressure boundary. 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 PPAFES isolation is indicated.

BASES

BACKGROUND (continued)

moisture removal. The primary purpose of the heaters is to maintain the relative humidity at an acceptable level; however, the VEGP dose analysis assumes no heater operation and an iodine removal efficiency consistent with the iodine removal efficiency in Regulatory Guide 1.52 (Ref. 4) for systems designed to operate inside primary containment (i.e., no humidity control). Therefore, the heaters are not required for PPAFES OPERABILITY.

APPLICABLE SAFETY ANALYSES

The PPAFES design basis is established by the large break loss of coolant accident (LOCA). The system evaluation assumes 2 gpm continuous leakage and a 50 gpm leak for 30 minutes due to a passive failure during a Design Basis Accident (DBA). The system restricts the radioactive release to within the 10 CFR 100 (Ref. 4) limits, or the NRC staff approved licensing basis (e.g., a specified fraction of 10 CFR 100 limits). The analysis of the effects and consequences of a large break LOCA are presented in Reference 3.

The PPAFES satisfies Criterion 3 of the NRC Policy Statement.

LCO

Two independent and redundant trains of the PPAFES are required to be OPERABLE to ensure that at least one train is available, assuming there is a single failure disabling the other train coincident with a loss of offsite power.

The PPAFES is considered OPERABLE when the individual components necessary to control radioactive releases are OPERABLE in both trains. A PPAFES train 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. Demister, ductwork, valves, and dampers are OPERABLE and air circulation can be maintained.

INSERT LCO NOTE BASES →

(continued)

INSERT 3
NEW REQUIRED ACTION B.1 BASES (LCO 3.7.13)

B.1

If the PPAFES boundary is inoperable, the PPAFES trains cannot perform their intended function. Actions must be taken to restore an OPERABLE PPAFES boundary within 24 hours. During the period that the PPAFES boundary is inoperable, appropriate compensatory measures (consistent with the intent, as applicable, of GDC 19, 60, 64 and 10 CFR 100) will be utilized to ensure the necessary physical security and to minimize the release of radioactive material to the atmosphere outside the building. 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 test, diagnose, and plan and possibly execute a repair of most problems with the PPAFES boundary.

BASES (continued)

APPLICABILITY

In MODES 1, 2, 3, and 4, the PPAFES is required to be OPERABLE, consistent with the OPERABILITY requirements of the ECCS.

In MODE 5 or 6, the PPAFES is not required to be OPERABLE since the ECCS is not required to be OPERABLE.

ACTIONS

A.1 due to reasons other than an inoperable PPAFES boundary?

With one PPAFES train inoperable, the action must be taken to restore OPERABLE status within 7 days. During this period, the remaining OPERABLE train is adequate to perform the PPAFES function. The 7 day Completion Time is appropriate because the risk contribution of the PPAFES is less than that of the ECCS (72 hour Completion Time), and this system is not a direct support system for the ECCS. The 7 day Completion Time is based on the low probability of a DBA occurring during this period, and the remaining train providing the required capability.

INSERT 3 → C

C B.1 and B.2

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

SURVEILLANCE REQUIREMENTS

SR 3.7.13.1

Standby systems should be checked periodically to ensure that they function properly. As the environmental and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system. Flow (FI-12629 and FI-12542) through the HEPA and charcoal filters is verified. Systems that do

(continued)

Enclosure 4
Vogtle Electric Generating Plant
Request to Revise Technical Specifications
Control Room Emergency Filtration System
Piping Penetration Area Filtration and Exhaust System

Clean-typed TS and Bases Pages

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Filtration System (CREFS) - Both Units Operating

LCO 3.7.10 Four CREFS trains shall be OPERABLE.

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

APPLICABILITY: Both Units in MODES 1, 2, 3, or 4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREFS train inoperable due to reasons other than inoperable control room boundary.	A.1 Place one CREFS train in the unaffected unit in the emergency mode.	7 days
B. One CREFS train inoperable in each unit due to reasons other than inoperable control room boundary.	B.1 Place two OPERABLE CREFS trains in the emergency mode.	7 days
C. Two CREFS trains inoperable in one unit due to reasons other than inoperable control room boundary.	C.1 Place two CREFS trains in the unaffected unit in the emergency mode.	Immediately
D. Four CREFS trains inoperable due to inoperable control room boundary.	D.1 Restore control room boundary to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Control room air temperature not within limit.	----------NOTE---------- LCO 3.0.4 is not applicable. ----------	
	E.1 Restore control room air temperature to within limit.	7 days
F. Required Action and associated Completion Time not met.	----------NOTE---------- LCO 3.0.4 is not applicable to the unaffected unit. ----------	
	F.1 ----------NOTE---------- Required Action F.1 is not applicable when entering this Condition from Condition B, D, or E. ----------	
	Lock closed the outside air (OSA) intake dampers of the affected unit and lock open the OSA intake dampers of the unaffected unit.	1 hour
	AND	
	F.2 Place the affected units(s) in MODE 3.	7 hours
	AND	
	F.3 Place the affected unit(s) in MODE 5.	37 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Verify control room air temperature ≤ 85°F.	12 hours
SR 3.7.10.2	Operate each CREFS train for ≥ 10 continuous hours with the heater control circuit energized.	31 days
SR 3.7.10.3	Perform required CREFS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.10.4	Verify each CREFS train actuates (switches to emergency mode) on an actual or simulated actuation signal.	18 months
SR 3.7.10.5	Verify one CREFS train per unit can maintain a positive pressure of ≥ 0.125 inches water gauge, relative to the adjacent areas during the pressurization mode of operation at a makeup flow rate of ≤ 1500 cfm.	18 months on a STAGGERED TEST BASIS

3.7 PLANT SYSTEMS

3.7.11 Control Room Emergency Filtration System (CREFS) - One Unit Operating

LCO 3.7.11 Four CREFS trains shall be OPERABLE.

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

APPLICABILITY: Only one Unit in MODES 1, 2, 3, or 4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREFS train inoperable in operating unit due to reasons other than inoperable control room boundary.	A.1 Place one CREFS train in the shutdown unit in the emergency mode.	7 days
B. One CREFS train inoperable in shutdown unit due to reasons other than inoperable control room boundary.	B.1 Lock closed the outside air (OSA) intake dampers of the shutdown unit and lock open the OSA intake dampers of the operating unit. OR B.2 Place one CREFS train in the operating unit in the emergency mode.	7 days 7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One CREFS train inoperable in each unit due to reasons other than inoperable control room boundary.	C.1	Lock closed the shutdown unit's OSA intake dampers and lock open the operating unit's OSA intake dampers.	7 days
	AND		
	C.2	Place the OPERABLE CREFS train in the shutdown unit in the emergency mode.	7 days
D. Two CREFS trains inoperable in operating unit due to reasons other than inoperable control room boundary.	D.1	Place both CREFS trains in the shutdown unit in the emergency mode.	Immediately
E. Two CREFS trains inoperable in shutdown unit due to reasons other than inoperable control room boundary.	E.1	Lock closed the OSA intake dampers of the shutdown unit and lock open the OSA intake dampers of the operating unit.	Immediately
	OR		
	E.2	Place both CREFS trains in the operating unit in the emergency mode.	Immediately
F. Four CREFS trains inoperable due to inoperable control room boundary.	F.1	Restore control room boundary to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. Control room air temperature not within limit.	----------NOTE---------- LCO 3.0.4 is not applicable. ---------- G.1 Restore control room air temperature to within limit.	7 days
H. Required Action and associated Completion Time not met for operating unit.	H.1 Place the unit in MODE 3. AND H.2 Place the unit in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.11.1	The Surveillance Requirements of Specification 3.7.10 are applicable.	In accordance with applicable SRs.

3.7 PLANT SYSTEMS

3.7.13 Piping Penetration Area Filtration and Exhaust System (PPAFES)

LCO 3.7.13 Two PPAFES trains shall be OPERABLE.

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

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

ACTIONS

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.13.1 Operate each PPAFES train for ≥ 15 minutes.	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.13.2	Perform required PPAFES filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.13.3	Verify each PPAFES train actuates on an actual or simulated actuation signal.	18 months
SR 3.7.13.4	Verify one PPAFES train can maintain a negative pressure ≥ 0.250 inches water gauge relative to atmospheric pressure during the post accident mode of operation at a flow rate of 15,500 cfm ± 10%.	18 months on a STAGGERED TEST BASIS

BASES

LCO (continued)

d. Cooling coils and associated temperature control equipment are capable of performing their function.

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 without requiring entry into the Condition for an inoperable pressure boundary. 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.

APPLICABILITY

In MODES 1, 2, 3, and 4, CREFS must be OPERABLE to control operator exposure and maintain control room temperature during and following a DBA.

ACTIONS

The following ACTIONS have been developed to take credit for the redundancy and inherent flexibility designed into the four 100% capacity CREFS trains. These ACTIONS were reviewed to ensure that the system function would be maintained under accident conditions coupled with a postulated single failure. The results of this review are documented in Reference 3.

A.1

With a single CREFS train inoperable due to reasons other than an inoperable control room boundary, action must be taken to restore the CREFS train to OPERABLE status, or one train of CREFS in the unaffected unit must be placed in the emergency mode of operation 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 a loss of the CREFS function for the affected unit. Placing one CREFS train in the unaffected unit in the emergency mode of operation ensures the

(continued)

BASES

ACTIONS

A.1 (continued)

control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. The 7 day Completion Time is based on the low probability of an event occurring during this time interval that would require CREFS operation and the capability of the remaining OPERABLE CREFS train to provide protection for the control room.

B.1

With one CREFS train inoperable in each unit due to reasons other than an inoperable control room boundary, action must be taken to restore the CREFS trains to OPERABLE status or the two remaining OPERABLE CREFS trains must be placed in the emergency mode of operation within 7 days. In this condition, the remaining OPERABLE CREFS trains are adequate to perform the control room protection function for each unit. However, the overall reliability is reduced because a single failure in one of the OPERABLE CREFS trains could result in a loss of the CREFS function for the affected unit. Placing one CREFS train in the emergency mode of operation in each unit ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. The 7 day Completion Time is based on the low probability of an event occurring during this time interval that would require CREFS operation and the capability of the remaining OPERABLE CREFS trains to provide protection for the control room.

C.1

With two CREFS trains inoperable in one unit due to reasons other than an inoperable control room boundary, action must be taken to protect the control room for the affected unit immediately. In this condition, there is no CREFS function for one unit. The two CREFS trains in the unaffected unit must be placed in the emergency mode of operation immediately. Placing two CREFS trains in the emergency mode of operation in the unaffected unit ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. Due to the loss of the CREFS function for one unit, the completion time of immediately is specified.

(continued)

BASES

ACTIONS
(continued)

D.1

If the control room boundary is inoperable in MODES 1, 2, 3, and 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) will be utilized to provide physical security and to protect control room operators from potential hazards such as radioactive contamination, smoke, temperature, and relative humidity. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. These preplanned measures will include, but not necessarily be limited to, suspension of movement of irradiated fuel assemblies and/or loads over irradiated fuel assemblies within the fuel handling building. 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 test, diagnose, plan, and possibly execute a repair of most problems with the control room boundary.

E.1

With the control room air temperature outside its limit, action must be taken to restore the air temperature to within the limit within 7 days. If the control room air temperature exceeds its limit, the ability of a single train of CREFS to maintain control room temperature after a CRI may be affected. The completion time of 7 days is reasonable considering the number of CREFS trains available to perform the required temperature control function and the low probability of an event occurring that would require the CREFS operation during that time.

The Required Actions are modified by a Note that states LCO 3.0.4 is not applicable. In consideration of the number of redundant CREFS trains available, the small variation in temperature expected between 12 hour surveillances, and the marginal impact small temperature variations may have on the ability of a CREFS train to maintain the control room temperature within limits, an exception to LCO 3.0.4 is applicable for this condition.

(continued)

BASES

ACTIONS (continued)

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

If the Required Actions and associated Completion Times of Conditions A, B, C, D, or E are not met, action must be taken to place the unit in a condition where the inoperable CREFS train(s) are no longer required. Locking closed the outside air (OSA) dampers in the affected unit and locking open the OSA dampers in the unaffected unit within 1 hour, ensure that all control room air intake is monitored by redundant radiogas monitors that actuate OPERABLE CREFS trains. The affected unit(s) must also be placed in MODE 3 within the following 6 hours and MODE 5 within the following 36 hours, which removes the requirement for control room protection in the event of an SI in the affected unit(s). These actions ensure that if the control room cannot be protected from all postulated accident and single failure conditions, the unit or units are placed in a MODE where the protection is no longer required. The allowed Completion Times are reasonable, based on operating experience, to perform the Required Actions and to reach the required unit conditions from full power conditions in an orderly manner without challenging unit systems.

All the Required Actions are modified by a Note that clarifies the application of LCO 3.0.4. Since the shutdown actions may only apply to the affected unit and the unaffected unit may continue to operate, LCO 3.0.4 does not apply to the unaffected unit in this Condition.

Required Action F.1 is modified by a Note that excepts Conditions B, D, and E. Conditions B, D, and E affect both units, and Required Action F.1 is based on a single affected unit. Therefore, upon entry into Condition F from Condition B, D, or E, only Required Actions F.2 and F.3 apply.

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1

The CREFS is required to maintain the control room temperature ≤ 85°F in the event of a CRI. The maintenance of the control room below this temperature ensures the operational requirements of equipment located in the control room will not be exceeded. To accomplish this function, the CREFS air flow is directed through cooling coils which are supplied by the Essential Chilled Water System. The design cooling capacity of the CREFS and the limitation of the normal control room ambient temperature (before CRI) ensure the capability of the CREFS to maintain the

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1 (continued)

control room temperature within limit after a CRI. The control room temperature is verified every 12 hours, and operating experience has proven this Frequency to be adequate.

SR 3.7.10.2

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 operations with the heater control circuit energized allows the heaters to operate as necessary to reduce the humidity in the ambient air and ensure excessive moisture (> 70% relative humidity) is removed from the adsorber and HEPA filters. Systems with heaters must be operated for ≥ 10 continuous hours with the heater control circuit energized and flow (FI-12191, FI-12192) through the HEPA filters and charcoal adsorbers. The 31 day Frequency is based on the reliability of the equipment and the two train per unit redundancy availability.

SR 3.7.10.3

This SR verifies that the required CREFS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREFS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 4). 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 3.7.10.4

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 3.7.10.5

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

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.10.5 (continued)

≥ 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 1500 cfm. The Frequency of 18 months on a STAGGERED TEST BASIS is consistent with the guidance provided in NUREG-0800 (Ref. 5).

REFERENCES

1. FSAR, Section 6.4.
2. FSAR, Chapter 15.
3. VEGP Calculation No. X6CNA.09.01, Control Room HVAC Technical Specifications, October 21, 1988.
4. Regulatory Guide 1.52, Rev. 2.
5. NUREG-0800, Section 6.4, Rev. 2, July 1981.

B 3.7 PLANT SYSTEMS

B 3.7.11 Control Room Emergency Filtration System (CREFS — One Unit Operating

BASES

BACKGROUND

A description of the CREFS is provided in the Bases for LCO 3.7.10, "CREFS — Both Units Operating."

APPLICABLE SAFETY ANALYSES

The Applicable Safety Analyses section of the Bases for LCO 3.7.10 also applies to this Bases section.

The CREFS provides airborne radiological protection for the control room operators in the event of the most limiting design basis loss of coolant accident (LOCA) in the operating unit as well as for a design basis fuel handling accident in the shutdown unit.

LCO

As this LCO requires all four CREFS trains OPERABLE, the LCO section of the Bases for LCO 3.7.10 also applies to this Bases section.

The LCO is modified by a Note allowing the control room boundary to be opened intermittently under administrative controls without requiring entry into the Condition for an inoperable pressure boundary. 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.

APPLICABILITY

In MODES 1, 2, 3, and 4 the CREFS must be OPERABLE to control the operators' exposure to radiation and maintain the control room temperature during and following a design basis LOCA in the operating unit.

The LCO requirements and ACTIONS of this LCO bound the movement of irradiated fuel or CORE ALTERATIONS in the shutdown unit as well. During movement of irradiated fuel or

(continued)

BASES

APPLICABILITY (continued)

CORE ALTERATIONS, the CREFS must be OPERABLE to control the operators' exposure to radiation and maintain the control room temperature during and following a design basis radiological release.

ACTIONS

The following ACTIONS have been developed to take credit for the redundancy and inherent flexibility designed into the four 100% capacity CREFS trains.

These ACTIONS were reviewed to ensure that the system function would be maintained under accident conditions coupled with a postulated single failure. The results of this review are documented in Reference 1.

A.1

With a single CREFS train inoperable in the operating unit due to reasons other than an inoperable control room boundary, action must be taken to restore the CREFS train to OPERABLE status or one CREFS train in the shutdown unit must be placed in the emergency mode of operation 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 a loss of the CREFS function for the operating unit. Placing one CREFS train in the shutdown unit in the emergency mode of operation ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. The 7 day Completion Time is based on the low probability of an event occurring during this time interval that would require CREFS operation and the capability of the remaining OPERABLE CREFS train to provide protection for the control room.

B.1 and B.2

With a single CREFS train inoperable in the shutdown unit due to reasons other than an inoperable control room boundary, action must be taken to restore the CREFS train to OPERABLE status or lock closed the outside air (OSA) dampers in the shutdown unit and lock open the OSA dampers in the operating unit or one train

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

of CREFS in the operating unit must be placed in the emergency mode of operation 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 a loss of the CREFS function for the shutdown unit. Locking closed the OSA dampers in the shutdown unit and locking open the OSA dampers in the operating unit ensure that all control room air intake is monitored by redundant radiogas monitors that actuate OPERABLE CREFS trains. Placing one CREFS train in the operating unit in the emergency mode of operation ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. The 7 day Completion Time is based on the low probability of an event occurring during this time interval that would require CREFS operation and the capability of the remaining OPERABLE CREFS train to provide protection for the control room.

C.1 and C.2

With one CREFS train inoperable in each unit due to reasons other than an inoperable control room boundary, action must be taken to restore the CREFS trains to OPERABLE status or lock close the OSA dampers in the shutdown unit and lock open the OSA dampers in the operating unit and place the OPERABLE CREFS train in the shutdown unit in the emergency mode within 7 days. Locking closed the OSA dampers in the shutdown unit and locking open the OSA dampers in the operating unit ensure that all control room air intake is monitored by redundant radiogas monitors that actuate an OPERABLE CREFS train. Placing the OPERABLE CREFS train of the shutdown unit in the emergency mode of operation ensures the control room remains protected for all postulated accident and single failure conditions.

In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. The 7 day Completion Time is based on the low probability of an event occurring during this time interval that would require CREFS operation and the capability of the remaining OPERABLE CREFS train to provide protection for the control room.

(continued)

BASES

ACTIONS (continued)

D.1

With two CREFS trains inoperable in the operating unit due to reasons other than an inoperable control room boundary, action must be taken to place both CREFS trains in the shutdown unit in the emergency mode immediately. In this condition, there is no CREFS function for the operating unit. The two CREFS trains in the shutdown unit must be placed in the emergency mode of operation immediately. Placing two CREFS trains in the emergency mode of operation in the shutdown unit ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. Due to the loss of the CREFS function for one unit, the completion time of immediately is specified.

E.1 and E.2

With two trains inoperable in the shutdown unit due to reasons other than an inoperable control room boundary, action must be taken to lock close the OSA dampers in the shutdown unit and lock open the OSA dampers in the operating unit or place both the operating unit CREFS trains in the emergency mode immediately. In this condition, there is no CREFS function for the shutdown unit. Locking closed the OSA dampers in the shutdown unit and locking open the OSA dampers in the operating unit ensure that all control room air intake is monitored by redundant radiogas monitors that actuate OPERABLE CREFS trains. Placing two CREFS trains in the emergency mode of operation in the operating unit ensures the control room remains protected for all postulated accident and single failure conditions. In addition, the capability of the CREFS to pressurize the control room, limit the radiation dose, and provide adequate cooling remains undiminished. Due to the loss of the CREFS function for one unit, the completion time of immediately is specified.

F.1

If the control room boundary is inoperable in MODES 1, 2, 3, and 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) will be utilized to provide physical security and to protect control room operators from potential hazards such as radioactive contamination, smoke,

(continued)

BASES

ACTIONS

F.1 (continued)

temperature, and relative humidity. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. These preplanned measures will include, but not necessarily be limited to, suspension of CORE ALTERATIONS and/or movement of irradiated fuel assemblies and/or loads over irradiated fuel assemblies. 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 test, diagnose, plan, and possibly execute a repair of most problems with the control room boundary.

G.1

With the control room air temperature outside its limit, action must be taken to restore the air temperature to within the limit within 7 days. If the control room air temperature exceeds its limit, the ability of a single train of CREFS to maintain control room temperature after a CRI may be affected. The completion time of 7 days is reasonable considering the number of CREFS trains available to perform the required temperature control function and the low probability of an event occurring that would require the CREFS operation during that time.

The Required Actions are modified by a Note that states LCO 3.0.4 is not applicable. In consideration of the number of redundant CREFS trains available, the small variation in temperature expected between 12 hour surveillances, and the marginal impact small temperature variations may have on the ability of a CREFS train to maintain the control room temperature within limits, an exception to LCO 3.0.4 is applicable for this condition.

H.1 and H.2

If the Required Actions and associated Completion Times for the operating unit are not met, action must be taken to place the unit in a condition where the inoperable CREFS train(s) are no longer required. The operating unit must be placed in MODE 3 within 6 hours and MODE 5 within 36 hours, which removes the requirement for control room protection in the event of an SI in the

(continued)

BASES

ACTIONS

H.1 and H.2 (continued)

operating unit. These actions ensure that if the control room cannot be protected from all postulated accident and single failure conditions, the unit is placed in a MODE where the protection is no longer required. The allowed Completion Times are reasonable, based on operating experience to reach the required unit conditions from full power conditions in an orderly manner without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.11.1

SR 3.7.11.1 requires that the SRs specified in LCO 3.7.10 be applicable for this LCO as well. The description and Frequencies of those required SRs are included in the Bases for LCO 3.7.10.

REFERENCES

1. VEGP Calculation No. X6CNA.09.01, Control Room HVAC Technical Specifications, October 21, 1988.

BASES

BACKGROUND (continued)

moisture removal. The primary purpose of the heaters is to maintain the relative humidity at an acceptable level; however, the VEGP dose analysis assumes no heater operation and an iodine removal efficiency consistent with the iodine removal efficiency in Regulatory Guide 1.52 (Ref. 4) for systems designed to operate inside primary containment (i.e., no humidity control). Therefore, the heaters are not required for PPAFES OPERABILITY.

APPLICABLE SAFETY ANALYSES

The PPAFES design basis is established by the large break loss of coolant accident (LOCA). The system evaluation assumes 2 gpm continuous leakage and a 50 gpm leak for 30 minutes due to a passive failure during a Design Basis Accident (DBA). The system restricts the radioactive release to within the 10 CFR 100 (Ref. 4) limits, or the NRC staff approved licensing basis (e.g., a specified fraction of 10 CFR 100 limits). The analysis of the effects and consequences of a large break LOCA are presented in Reference 3.

The PPAFES satisfies Criterion 3 of the NRC Policy Statement.

LCO

Two independent and redundant trains of the PPAFES are required to be OPERABLE to ensure that at least one train is available, assuming there is a single failure disabling the other train coincident with a loss of offsite power.

The PPAFES is considered OPERABLE when the individual components necessary to control radioactive releases are OPERABLE in both trains. A PPAFES train 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. Demister, ductwork, valves, and dampers are OPERABLE and air circulation can be maintained.

The LCO is modified by a Note allowing the PPAFES boundary to be opened intermittently under administrative controls without requiring entry into the Condition for an inoperable pressure boundary. For

(continued)

BASES

LCO (continued)

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 PPAFES isolation is indicated.

APPLICABILITY

In MODES 1, 2, 3, and 4, the PPAFES is required to be OPERABLE, consistent with the OPERABILITY requirements of the ECCS.

In MODE 5 or 6, the PPAFES is not required to be OPERABLE since the ECCS is not required to be OPERABLE.

ACTIONS

A.1

With one PPAFES train inoperable due to reasons other than an inoperable PPAFES boundary, the action must be taken to restore OPERABLE status within 7 days. During this period, the remaining OPERABLE train is adequate to perform the PPAFES function. The 7 day Completion Time is appropriate because the risk contribution of the PPAFES is less than that of the ECCS (72 hour Completion Time), and this system is not a direct support system for the ECCS. The 7 day Completion Time is based on the low probability of a DBA occurring during this period, and the remaining train providing the required capability.

B.1

If the PPAFES boundary is inoperable, the PPAFES trains cannot perform their intended function. Actions must be taken to restore an OPERABLE PPAFES boundary within 24 hours. During the period that the PPAFES boundary is inoperable, appropriate compensatory measures (consistent with the intent, as applicable, of GDC 19, 60, 64 and 10 CFR 100) will be utilized to ensure the necessary physical security and to minimize the release of radioactive material to the atmosphere outside the building. 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

(continued)

BASES

ACTIONS

B.1 (continued)

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 test, diagnose, and plan and possibly execute a repair of most problems with the PPAFES boundary.

C.1 and C.2

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

SURVEILLANCE REQUIREMENTS

SR 3.7.13.1

Standby systems should be checked periodically to ensure that they function properly. As the environmental and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system. Flow (FI-12629 and FI-12542) through the HEPA and charcoal filters is verified. Systems that do not take credit for humidity control (heaters) need only be operated for $\geq$ 15 minutes to demonstrate the function of the system. The 31 day Frequency is based on the known reliability of equipment and the two train redundancy available.

SR 3.7.13.2

This SR verifies that the required PPAFES testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The PPAFES filter tests are in accordance with Regulatory Guide 1.52 (Ref. 5). 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.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.13.3

This SR verifies that each PPAFES starts and operates on an actual or simulated containment ventilation isolation signal. The 18 month Frequency is consistent with that specified in Reference 5.

SR 3.7.13.4

This SR verifies the integrity of the penetration room enclosure. The ability of the penetration room to maintain a negative pressure, with respect to potentially uncontaminated adjacent areas, is periodically tested to verify proper function of PPAFES. During the post accident mode of operation, the PPAFES is designed to maintain a negative pressure $\geq$ 0.250 inches water gauge relative to atmospheric pressure (PDI-2550 and PDI-2551 in rooms R1-63 and R1-64) at a flow rate of 15,500 $\pm$ 10% cfm in the penetration room to prevent unfiltered LEAKAGE. The Frequency of 18 months is consistent with the guidance provided in NUREG-0800 (Ref. 6).

The minimum system flow rate maintains a slight negative pressure in the penetration room area, and provides sufficient air velocity to transport particulate contaminants, assuming only one filter train is operating. The number of filter elements is selected to limit the flow rate through any individual element to about 15,500 $\pm$ 10% cfm. The maximum limit ensures that the flow through, and pressure drop across, each filter element are not excessive.

The number and depth of the adsorber elements ensure that, at the maximum flow rate, the residence time of the air stream in the charcoal bed achieves the desired adsorption rate. At least a 0.250 second residence time per 2 inch of bed depth is necessary for an assumed 90% efficiency.

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

This test is conducted along with the tests for filter penetration; thus, the 18 month Frequency is consistent with that specified in Reference 5.

(continued)

BASES (continued)

REFERENCES

1. FSAR, Subsection 6.5.1.
2. FSAR, Subsection 9.4.3.
3. FSAR, Subsection 15.6.5.
4. 10 CFR 100.
5. Regulatory Guide 1.52, Rev. 2.
6. NUREG-0800, Section 6.5.1, Rev. 2, July 1981.