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SOUTHERN COMPANY
Energy to Serve Your World℠

February 9, 2001

LCV-1455-A

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

By letter (LCV-1455) dated November 6, 2000, Southern Nuclear Operating Company (SNC) proposed 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. During a telephone conversation with the NRC staff, the NRC staff requested that SNC revise our November 6, 2000, submittal.

In response to the NRC staff request, SNC is revising our submittal as follows. In our November 6, 2000, letter, SNC proposed to revise LCO 3.7.10 Conditions A, B, and C by adding the words "due to reasons other than inoperable control room boundary." Pursuant to the NRC staff request, SNC will alter the proposed change to "for reasons other than Condition D." Similarly, the proposed changes to LCO 3.7.11, Conditions A, B, C, D, and E will be altered to "for reasons other than Condition F" in place of "due to reasons other than inoperable control room boundary." The associated Bases will be revised accordingly. In addition, the Bases for LCO 3.7.13, Required Action A.1 will be restored to its original wording by deleting the phrase "due to reasons other than an inoperable PPAFES boundary" that was added with our November 6, 2000, submittal. This language is not used in LCO 3.7.13, Condition A. Revised marked-up and clean-typed pages reflecting these changes are attached. These revisions to our November 6, 2000, submittal do not affect the scope of or alter the conclusions of the 10 CFR 50.92 significant hazard evaluation provided with our November 6, 2000, submittal.

A003

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 9th *day of* February, *2001.*

_____
Notary Public

My commission expires: 11/10/02

JBB/NJS

Enclosure

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

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 for reasons other than Condition D.	A.1 Place one CREFS train in the unaffected unit in the emergency mode.	7 days
B. One CREFS train inoperable in each unit for reasons other than Condition D.	B.1 Place two OPERABLE CREFS trains in the emergency mode.	7 days
C. Two CREFS trains inoperable in one unit for reasons other than Condition D.	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~~. F Required Action and associated Completion Time not met.	----------NOTE---------- LCO 3.0.4 is not applicable to the unaffected unit.	
	~~E~~.1 F ----------NOTE---------- Required Action ~~E~~.1 is not applicable when entering this Condition from Condition B, ~~or~~ 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	
	~~E~~.2 F Place the affected units(s) in MODE 3.	7 hours
	AND	
	~~E~~.3 F 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 for reasons other than Condition F.	A.1	Place one CREFS train in the shutdown unit in the emergency mode.	7 days
B. One CREFS train inoperable in shutdown unit for reasons other than Condition F.	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 for reasons other than Condition F.	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 for reasons other than Condition F.	D.1	Place both CREFS trains in the shutdown unit in the emergency mode.	Immediately
E. Two CREFS trains inoperable in shutdown unit for reasons other than Condition F.	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~~. G Control room air temperature not within limit.	----------NOTE---------- LCO 3.0.4 is not applicable. ----------	
	~~F~~.1 G Restore control room air temperature to within limit.	7 days
~~Ø~~. H Required Action and associated Completion Time not met for operating unit.	H ~~Ø~~.1 Place the unit in MODE 3.	6 hours
	AND	
	~~Ø~~.2 H 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~~ C.2 Be in MODE 5.	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

for reasons other than Condition D

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

For reasons other than Condition D

With one CREFS train inoperable in each unit, 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 ~~E~~.1, F ~~E~~.2, and F ~~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 ~~E~~.1, ~~E~~.2, and ~~E~~.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 ~~E~~.1 and E is modified by a Note that excepts Conditions B, ~~and~~ D and E. Conditions B, ~~and~~ D affect both units, and Required Action ~~E~~.1 is based on a single affected unit. Therefore, upon entry into Condition ~~E~~ F from Condition B ~~or~~ D or E, only Required Actions ~~E~~ F.2 and ~~E~~ 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

INSERT LCO NOTE BASES

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

For reasons other than Condition F

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

for reasons other than Condition F

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

for reasons other than Condition F

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.

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 Z

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

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 ~~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)

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 for reasons other than Condition D.	A.1 Place one CREFS train in the unaffected unit in the emergency mode.	7 days
B. One CREFS train inoperable in each unit for reasons other than Condition D.	B.1 Place two OPERABLE CREFS trains in the emergency mode.	7 days
C. Two CREFS trains inoperable in one unit for reasons other than Condition D.	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 for reasons other than Condition F.	A.1 Place one CREFS train in the shutdown unit in the emergency mode.	7 days
B. One CREFS train inoperable in shutdown unit for reasons other than Condition F.	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 for reasons other than Condition F.	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 for reasons other than Condition F.	D.1	Place both CREFS trains in the shutdown unit in the emergency mode.	Immediately
E. Two CREFS trains inoperable in shutdown unit for reasons other than Condition F.	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.	6 hours
	AND	
	H.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.

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 for reasons other than Condition D, 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 for reasons other than Condition D, 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 for reasons other than Condition D, 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 for reasons other than Condition F, 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 for reasons other than Condition F, 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

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

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 for reasons other than Condition F, 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 for reasons other than Condition F, 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 for reasons other than Condition F, 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, 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 ≥ 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 ≥ 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 ± 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 ± 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.