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

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

Tel 205 992 7110
Fax 205 992 0403

SOUTHERN COMPANY
Energy to Serve Your World℠

September 24, 2002

Docket Nos.: 50-348
50-364

NEL-02-0010

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Joseph M. Farley Nuclear Plant
Request To Revise Technical Specifications
Control Room Emergency Filtration/Pressurization System and
Penetration Room Filtration System

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.90, Southern Nuclear Operating Company (SNC) proposes to revise the Farley Nuclear Plant (FNP) Unit 1 and Unit 2 Technical Specifications (TS). The proposed changes are to Limiting Conditions for Operation (LCO) 3.7.10, Control Room Emergency Filtration/Pressurization System (CREFS), LCO 3.7.12, Penetration Room Filtration (PRF) System, and associated Bases. These changes are proposed to address degraded ventilation system pressure boundaries. The changes proposed for the FNP TS are based on Industry/Technical Specification Task Force Standard Technical Specification (STS) Change Traveler TSTF-287, Revision 5, which was NRC approved by letter dated March 16, 2000. In addition, a change is proposed to address Farley specific design. This change impacts TS 3.7.12 and corrects an oversight made during a TS amendment request submitted October 4, 1999. If approved, this change will eliminate a requirement to cease power operation if the fuel handling accident function of the PRF system is inoperable. These changes apply equally to each unit. An additional change was made to the bases for TS 3.7.12 to address breaches that do not render the spent fuel pool room boundary inoperable.

SNC has reviewed the proposed amendment pursuant to 10 CFR 50.92 and determined that it does not involve a significant hazards consideration. In addition, there is no significant increase in the amounts of effluents that may be released offsite, and there is no significant increase in individual or cumulative occupational radiation exposure. Consequently, the proposed amendment satisfies the criteria of 10 CFR 51.22 for categorical exclusion from the requirements for an environmental assessment.

The proposed changes and their bases are described in Attachment 1. An evaluation demonstrating that the proposed changes do not involve a significant hazard as defined in 10 CFR 50.92 is provided in Attachment 2. Marked-up TS and Bases pages are provided in Attachment 4, and clean-typed TS and Bases pages are provided in Attachment 5. The Bases pages are provided for information and will be implemented under the plant Bases Control Program contingent upon NRC approval of this amendment request.

A003

Approval of these proposed changes will allow maintenance activities on ventilation area pressure boundaries such as doors that cannot be performed within the requirements of the current Technical Specifications. SNC requests approval of the proposed changes by June 1, 2003.

This submittal contains NRC commitments. These will become effective upon implementation of the proposed change. They are listed in Attachment 3.

Mr. J. B. Beasley, Jr. states 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 to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully Submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

J. B. Beasley, Jr.

Sworn to and subscribed before me this 24th *day of* September, *2002.*

Gloria H. Buie
Notary Public

My commission expires: 6/07/05

JBB/EWC/sdl: CRPRSFPventrev073002.doc

Attachment 1: Basis for Proposed Changes
Attachment 2: No Significant Hazard Consideration Evaluation
Attachment 3: NRC Commitments
Attachment 4: Marked-up TS and Bases Pages
Attachment 5: Clean-typed TS and Bases Pages

cc: Southern Nuclear Operating Company
Mr. D. E. Grissette, General Manager–Farley

U. S. Nuclear Regulatory Commission, Washington, D. C.
Mr. F. Rinaldi, Licensing Project Manager – Farley

U. S. Nuclear Regulatory Commission, Region II
Mr. L. A. Reyes, Regional Administrator
Mr. T. P. Johnson, Senior Resident Inspector, Farley

Alabama Department of Public Health
Dr. D. E Williamson, State Health Officer

ATTACHMENT 1
JOSEPH M. FARLEY NUCLEAR PLANT
REQUEST TO REVISE TECHNICAL SPECIFICATIONS
CONTROL ROOM EMERGENCY FILTRATION/PRESSURIZATION SYSTEM
PENETRATION ROOM FILTRATION SYSTEM

Basis for Proposed Changes

ATTACHMENT 1
JOSEPH M. FARLEY NUCLEAR PLANT
REQUEST TO REVISE TECHNICAL SPECIFICATIONS
CONTROL ROOM EMERGENCY FILTRATION/PRESSURIZATION SYSTEM
PENETRATION ROOM FILTRATION SYSTEM

BASIS FOR PROPOSED CHANGES

Background

The control room emergency filtration/pressurization system (CREFS) provides a protected environment from which operators can control the unit following a release of radioactivity. The Unit 1 and 2 control room is a common room served by a shared CREFS. The CREFS consists of two independent, redundant trains that recirculate and filter the control room air in conjunction with the control room air conditioning system (CRACS), and two independent, redundant trains that pressurize the control room with filtered outside air. Each train consists of a prefilter, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Each pressurization train contains a heater, ductwork, valves or dampers, and instrumentation which also form part of the system. The CREFS is an emergency system, parts of which may also operate during normal unit operations in the standby mode of operation. Upon receipt of the actuating signal(s), normal air supply to the control room is isolated, and the stream of ventilation air is recirculated through the system filter trains.

The penetration room filtration (PRF) system filters airborne radioactive particulates from the area of the spent fuel pool following a fuel handling accident or emergency core cooling system (ECCS) pump rooms and penetration area of the auxiliary building following a loss of coolant accident (LOCA). The PRF System consists of two independent and redundant trains. Each train consists of a heater, a prefilter, a HEPA filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), a recirculation fan and an exhaust fan. Ductwork, valves or dampers, and instrumentation also form part of the system. The heater is not credited in the analysis but serves to reduce the relative humidity of the air stream. The PRF System is a standby system normally aligned to filter the spent fuel pool room (SFPR). The system initiates filtered ventilation of the SFPR following receipt of a high radiation signal or a low air flow signal from the normal ventilation system. The system initiates filtered ventilation of the ECCS pump rooms and penetration area following receipt of a containment isolation actuation system (CIAS) Phase B signal and manual isolation of the spent fuel pool room.

The changes approved with TSTF-287, Revision 5, revise the Standard Technical Specifications (STS) to allow the pressure boundaries of the CREFS and PRF ventilation systems to be opened intermittently under administrative control. A new Condition is added that allows 24 hours to restore the ventilation system capability, if lost due to a breach of the CREFS or PRF boundary, before requiring the unit to perform an orderly shutdown. Currently if the Farley CREFS or PRF pressure boundary is inoperable, making both trains of the associated ventilation system inoperable, there is no applicable Condition and entry into LCO 3.0.3 is required.

In addition, a change is proposed to address Farley specific design. This change impacts TS 3.7.12 and corrects an oversight made during a Technical Specifications (TS) amendment request submitted October 4, 1999. If approved, this change will eliminate a requirement to cease power operation if the fuel handling accident function of the PRF system is inoperable.

Proposed Changes

The proposed changes revise the Farley Nuclear Plant (FNP) TS Limiting Conditions for Operation (LCO) 3.7.10, Control Room Emergency Filtration/Pressurization System (CREFS) and LCO 3.7.12,

BASIS FOR PROPOSED CHANGES

Penetration Room Filtration (PRF) System, and associated Bases to address degraded ventilation system pressure boundaries. The proposed changes are as follows.

A note is added to LCOs 3.7.10 and 3.7.12 that allows the affected ventilation system boundary to be opened under administrative control. The associated Bases are revised to explain that, for ingress and egress, 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 in the PRF or CREFS boundaries, 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. For other openings in the SFPR boundary that render it inoperable, administrative controls will be in place to prevent movement of irradiated fuel or loads over the irradiated fuel in the SFPR.

With the CREFS or PRF pressure boundary inoperable, the associated CREFS or PRF trains are unable to perform their post accident functions. LCO 3.7.10 is revised to add a new Condition for two CREFS trains inoperable due to an inoperable control room boundary. The associated Required Action is to restore the control room boundary to operable status, with a Completion Time of 24 hours. LCO 3.7.12 is revised to add new Conditions to address two PRF trains inoperable due to an inoperable PRF boundary. Associated Bases are added for the new Required Actions. These Bases explain that the Completion Time of 24 hours for CR or PRF boundary restoration is based on the low probability of a design basis accident, during this period of time, requiring the ventilation systems to function along with the use of compensatory measures. The bases for the proposed immediate action for breach of the SFPR boundary that render it inoperable, explain that the action eliminates the initiator of a fuel handling accident in the SFPR. At FNP, the fuel handling accident analysis assumes mitigation via actuation of the PRF system in the fuel handling accident mode of operation. Testing at FNP has shown that the PRF is capable of satisfying SR 3.7.12.6 with the new fuel access hatch removed. Therefore, irradiated fuel may be moved and other loads over the irradiated fuel may be moved with the new fuel access hatch removed.

A change is proposed to address Farley specific design. This change impacts TS 3.7.12 and corrects an oversight made during a TS amendment request submitted October 4, 1999. If approved, this change will eliminate a requirement to cease power operation if the fuel handling accident function of the PRF system is inoperable. An action is provided to cease fuel movement in the SFPR should both trains of the SFPR portion of the PRF system become inoperable.

Basis

By letter dated March 16, 2000, the NRC staff approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification (STS) Change Traveler TSTF-287, Revision 5. This traveler revised the STS to provide specific Conditions and Required Actions for room or barrier degradation as opposed to ventilation train degradation. The STS contain Surveillance Requirements (SRs) that test the integrity of the room or 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, SRs for barriers ensure that 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 the SRs for barriers.

BASIS FOR PROPOSED CHANGES

Therefore, failure to meet the requirements for a leak tight boundary renders all affected ventilation trains inoperable, and entry into LCO 3.0.3 is required. The changes approved with TSTF-287, Revision 5, allow 24 hours 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 inoperable is excessive and, in some cases, may not be appropriate. In addition, because of the low probability of a LOCA during the 24-hour period, elimination of the fuel handling accident initiator when the SFPR boundary is breached such that the PRF system is inoperable, and reliance on compensatory measures, the changes were determined to be acceptable.

Control Room Emergency Filtration/Pressurization System (CREFS)

At FNP, the CREFS consists of two redundant air-handling trains that function to process intake airflow and recirculated airflow in the combined control room. 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 airborne radioactivity and protect control room personnel from the potential adverse effects. 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 radiation monitors. TS LCO 3.7.10 requires two CREFS trains to be operable. The only time that two 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 3.7.10). With respect to LCO 3.7.10, there is no Condition that addresses the inoperability of both CREFS trains. Therefore, if the control room pressure boundary is inoperable such that the required positive pressure relative to the outside atmosphere cannot be maintained, then both CREFS trains are rendered inoperable, and TS LCO 3.0.3 must be entered for both units. Requiring both units to enter LCO 3.0.3 when the control room pressure boundary is inoperable does not provide ample time to perform repairs prior to the required plant shutdown.

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 FNP, the probability of an accident involving core damage (based on internal events) during a 24-hour period (both units added together) is approximately 3.4 E-07. Based on a review of the FSAR chapter 15 safety analyses for FNP, 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 FNP, the probability of a LOCA during a year is approximately 2.46 E-05, the probability of an SGTR is approximately 1.81 E-04, and the probability of an MSLB is approximately 3.89 E-05. In the commercial nuclear industry, neither a control rod ejection accident nor a locked RCP rotor has occurred. Based upon several thousand-reactor years operating experience worldwide, a very conservative estimate of the probability of such events would be on the order of 1.0 E-04 per year. For a 24-hour period, this equates 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 very small. Finally, when the control room pressure

boundary is inoperable, a fuel handling accident will be precluded by the application of administrative controls. These controls will prohibit the movement of irradiated fuel assemblies and core alterations.

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 control room area is served by two 100 percent capacity CREFS trains. With the pressure boundary intact, a single train is sufficient to maintain the required positive pressure ($\geq$ 0.125 inches water gauge). With both trains operating and the pressure boundary intact, the CREFS is able to maintain a positive pressure significantly higher than 0.125 inches water gauge relative to the adjacent areas. Therefore, the combined capacity of both 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 that could be used to mitigate the radiological dose consequences due to iodine intake.

Compensatory measures to address breaching of the control room pressure boundary at FNP will be implemented via administrative controls. When the control room pressure boundary is opened for other than normal entry through doors, a dedicated individual will be stationed in the area. This individual will maintain continuous communication with the control room and be able to rapidly restore the pressure boundary if needed. When the CR pressure boundary is inoperable, requiring entry into proposed Condition B for LCO 3.7.10, administrative controls will prohibit core alterations or the movement of irradiated fuel or the movement of loads over irradiated fuel. In addition, compensatory measures requiring both CREFS trains operable, except for the breach, and availability of self-contained breathing apparatus or iodine filters for the control room operators will be implemented via administrative controls. Consideration will be given to providing a temporary closure that can be placed in the breached area should an accident occur. It is not expected that all breaches will be configured such that temporary barriers are practical. The measures necessary to ensure physical security will also be addressed.

Penetration Room Filtration (PRF) System.

At FNP, the PRF consists of two redundant air-handling trains. The system functions to minimize the release of radioactivity by maintaining a negative pressure on the areas it serves and by filtering the exhaust from the negative pressure boundary. The PRF system is normally aligned to the spent fuel pool area. The system is credited for mitigating the radiological consequences for a postulated fuel handling accident in the spent fuel pool and for loss of coolant, rod ejection and locked RCP rotor events. In the event of an accident that results in an actuation, the PRF system automatically realigns to the penetration room area and the spent fuel pool area is manually isolated by operator action.

If the PRF pressure boundary is inoperable, requiring entry into proposed new Condition B for LCO 3.7.12, compensatory measures to address the breach of the penetration room pressure boundary at FNP will be implemented via administrative controls. When the PRF 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 maintain continuous 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 3.7.12, the PRF trains can be operated to provide filtering, albeit with potential unfiltered leakage. The measures necessary to ensure physical security will also be addressed. Consideration will be given to providing a temporary closure

BASIS FOR PROPOSED CHANGES

barrier that can be placed in the breached area should an accident occur. It is not expected that all breaches will be configured such that temporary barriers are practical. In addition, compensatory measures involving having both PRF trains operable, except for the breach, and/or use of self-contained breathing apparatus or iodine filters will be implemented via administrative controls.

When the spent fuel pool room (SFPR) boundary is inoperable, requiring entry into proposed Condition E for LCO 3.7.12, or the SFPR pressure boundary doors or hatches, that when open render the SFPR boundary inoperable, are opened for other than normal entry, administrative controls will be in place to prevent movement of irradiated fuel in the SFPR or movement of loads over the irradiated fuel in the SFPR.

Attachment 2
Joseph M. Farley Nuclear Plant
Request to Revise Technical Specifications
Control Room Emergency Filtration/Pressurization System
Penetration Room Filtration System

No Significant Hazards Consideration Evaluation

Attachment 2
Joseph M. Farley Nuclear Plant
Request to Revise Technical Specifications
Control Room Emergency Filtration/Pressurization System
Penetration Room Filtration System

No Significant Hazards 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?

The control room emergency filtration/pressurization system (CREFS) and the penetration room filtration (PRF) system are not initiators of any accident. The proposed changes do not alter the physical plant nor do they alter modes of plant operation. Therefore, the proposed changes do not affect the probability of any accident previously evaluated. Compensatory actions such as the availability of self-contained breathing apparatus or iodine filters provide additional assurance that the requirements of GDC 19 are met. Prohibiting movement of irradiated fuel, or loads over irradiated fuel or core alterations when the control room boundary is inoperable and limiting movement of irradiated fuel or loads over the fuel in the spent fuel pool room when its boundary is inoperable will eliminate the potential for exceeding GDC 19 due to a fuel handling accident. These actions will also prevent an off site dose release in excess of analyzed values. Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The CREFS and the PRF systems are not initiators of any analyzed accident. The proposed changes do not alter the operation of the plant or any of its equipment, introduce any permanent new equipment, adversely impact maintenance practices or result in any new failure mechanisms or single failures. Any temporary equipment utilized for compensatory measures will be subject to existing administrative controls that address issues such as fire prevention and seismic concerns. Therefore, there is no potential for a new accident and no potential for changing the progression of an analyzed accident. The proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

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

The proposed changes do not adversely affect the ability of the fission product barriers to perform their functions. Adequate compensatory measures are available to mitigate a breach in the control room, spent fuel pool room and penetration room pressure boundaries. The probability of a loss of coolant accident that would place demands on these systems during a period that the ventilation system pressure boundaries would be allowed to be inoperable has been shown to be very small. In addition, proposed administrative controls eliminate the potential for a fuel handling accident, with potential to exceed dose limits, while the spent fuel pool room boundary room is breached. Therefore, the proposed changes do not result in a significant reduction in a margin of safety.

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

Attachment 3
Joseph M. Farley Nuclear Plant
Request to Revise Technical Specifications
Control Room Emergency Filtration/Pressurization System
Penetration Room Filtration System

NRC Commitments

Attachment 3
Joseph M. Farley Nuclear Plant
Request to Revise Technical Specifications
Control Room Emergency Filtration/Pressurization System
Penetration Room Filtration System

NRC Commitments

The following commitments are effective upon implementation of the proposed amendment.

1. When the penetration room filtration (PRF) or the control room (CR) pressure boundary (doors or hatches) is opened for other than normal entry, a dedicated individual will be stationed in the area. This individual will establish continuous communication with the control room and be able to rapidly restore the pressure boundary if needed.

2. When the CR pressure boundary is inoperable, requiring entry into proposed Condition B for LCO 3.7.10, consideration will be given to providing a temporary closure that can be placed in the breached area should an accident occur. In addition, administrative controls will prohibit core alterations, the movement of irradiated fuel, or loads over irradiated fuel. In addition, compensatory measures requiring both control room emergency filtration/pressurization system (CREFS) trains operable, except for the breach, and availability of self-contained breathing apparatus or iodine filters for the control room operators will be implemented via administrative controls.

3. When the spent fuel pool room (SFPR) boundary is inoperable, requiring entry into proposed Condition E for LCO 3.7.12, or the SFPR pressure boundary doors or hatches, that when open render the SFPR boundary inoperable, are opened for other than normal entry, administrative controls will be in place to prevent movement of irradiated fuel in the SFPR or movement of loads over the irradiated fuel in the SFPR.

4. When the penetration room boundary is inoperable, requiring entry into proposed Condition B for LCO 3.7.12, consideration will be given to providing a temporary closure barrier that can be placed in the breached area should an accident occur. In addition, compensatory measures requiring both PRF trains operable, except for the breach, and availability of self-contained breathing apparatus or iodine filters for the control room operators will be implemented via administrative controls.

Attachment 4
Joseph M. Farley Nuclear Plant
Request to Revise Technical Specifications
Control Room Emergency Filtration/Pressurization System
Penetration Room Filtration System

Marked-Up Technical Specification and Bases Pages

Pages

3.7.10-1
3.7.10-2
3.7.12-1
Inserts A and B
3.7.12-2
B 3.7.10-3
B 3.7.10-4
Inserts C and D
B 3.7.10-5
B 3.7.10-6
B 3.7.12-3
Inserts E and F
B 3.7.12-4

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Filtration/Pressurization System (CREFS)

LCO 3.7.10 Two CREFS trains shall be OPERABLE.

NOTE
The CREFS boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, and 4,
During movement of irradiated fuel assemblies,
During CORE ALTERATIONS.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One CREFS train inoperable.	A.1	Restore CREFS train to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4.	B.1	Be in MODE 3.	6 hours
	AND		
	B.2	Be in MODE 5.	36 hours
C. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies or during CORE ALTERATIONS.	C.1	Place OPERABLE CREFS train in emergency recirculation mode.	Immediately
	OR		
	C.2.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	C.2.2	Suspend movement of irradiated fuel assemblies.	Immediately
B. Two CREFS trains inoperable due to inoperable control room boundary in MODE 1, 2, 3, or 4.	B.1	Restore control room boundary to OPERABLE status.	24 hours

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two CREFS trains inoperable during movement of irradiated fuel assemblies or during CORE ALTERATIONS.	D.1 Suspend CORE ALTERATIONS. AND D.2 Suspend movement of irradiated fuel assemblies.	Immediately Immediately
E. Two CREFS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Operate each CREFS Pressurization train for ≥ 10 continuous hours with the heaters operating and each CREFS Recirculation and Filtration train for ≥ 15 minutes.	31 days
SR 3.7.10.2	Perform required CREFS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.10.3	----------NOTE---------- Not required to be performed in MODES 5 and 6. ---------- Verify each CREFS train actuates on an actual or simulated actuation signal.	 18 months
SR 3.7.10.4	Verify one CREFS train can maintain a positive pressure of ≥ 0.125 inches water gauge, relative to the outside atmosphere during system operation.	18 months

3.7 PLANT SYSTEMS

3.7.12 Penetration Room Filtration (PRF) System

LCO 3.7.12 Two PRF trains shall be OPERABLE.

INSERT A

APPLICABILITY: MODES 1, 2, 3, and ~~4~~ for post LOCA mode of operation
During movement of irradiated fuel assemblies in the ~~spent fuel pool room~~ SFPR for the fuel handling accident mode of operation

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One PRF train inoperable.	A.1 Restore PRF train to OPERABLE status.	7 days
~~B.~~ C. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4. (for B) OR Two PRF trains inoperable in MODE 1, 2, 3, or ~~4~~	~~B.~~ C.1 Be in MODE 3. AND C ~~B.~~ 2 Be in MODE 5.	6 hours 36 hours
D ~~C.~~ Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the ~~fuel building~~ SFPR	~~C.~~ 1 D Place OPERABLE PRF train in operation. OR ~~C.~~ 2 D Suspend movement of irradiated fuel assemblies in the ~~spent fuel pool room~~ SFPR	Immediately Immediately

INSERT B

for reasons other than Condition B

INSERT A

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

The PRF and Spent Fuel Pool Room (SFPR) boundaries may be opened intermittently under administrative control.

INSERT B

B.	Two PRF trains inoperable in MODE 1, 2, 3, or 4 due to inoperable PRF boundary.	B.1	Restore PRF boundary to OPERABLE status	24 hours

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~D.~~ E Two PRF trains inoperable during movement of irradiated fuel assemblies in the ~~spent fuel pool room~~ SFPR	~~D.1~~ E Suspend movement of irradiated fuel assemblies in the ~~spent fuel pool room~~ SFPR	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	----------NOTE---------- Only required to be performed during movement of irradiated fuel assemblies in the ~~spent fuel pool room~~ SFPR ---------- Verify two PRF trains aligned to the ~~spent fuel pool room~~	24 hours
SR 3.7.12.2	Operate each PRF train for ≥ 15 minutes in the applicable mode of operation (post LOCA and/or refueling accident).	31 days
SR 3.7.12.3	Perform required PRF filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.12.4	Verify each PRF train actuates and the normal spent fuel pool room ventilation system isolates on an actual or simulated actuation signal.	18 months
SR 3.7.12.5	Verify one PRF train can maintain a pressure ≤ -0.125 inches water gauge with respect to adjacent areas during the post LOCA mode of operation at a flow rate ≤ 5500 cfm.	18 months on a STAGGERED TEST BASIS
SR 3.7.12.6	Verify one PRF train can maintain a slightly negative pressure with respect to adjacent areas during the fuel handling accident mode of operation at a flow rate ≤ 5500 cfm.	18 months on a STAGGERED TEST BASIS

BASES

LCO

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

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

a. Fans are OPERABLE; (recirculation, filtration, Pressurization, and CRACS Fans)

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

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

INSERT C

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

APPLICABILITY

With either unit in MODES 1, 2, 3, or 4 or during movement of irradiated fuel assemblies or during CORE ALTERATIONS, CREFS must be OPERABLE to control operator exposure during and following a DBA.

During movement of irradiated fuel assemblies and CORE ALTERATIONS, the CREFS must be OPERABLE to cope with the release from a fuel handling accident.

ACTIONS

A.1

When one CREFS train is inoperable, action must be taken to restore OPERABLE status within 7 days. In this Condition, the remaining OPERABLE CREFS train is adequate to perform the control room protection function. However, the overall reliability is reduced because a single failure in the OPERABLE CREFS train could result

(continued)

BASES

ACTIONS

A.1 (continued)

in loss of CREFS function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and ability of the remaining train to provide the required capability.

INSERT D →

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

(or control room boundary)

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

D. ~~C~~.1, ~~C~~.2.1, and ~~C~~.2.2

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

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

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

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

(continued)

INSERT C

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

INSERT D

B.1

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

BASES

ACTIONS (continued)

F.1 {for reasons other than inoperable control room boundary (i.e. Condition B)}

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

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing each train (CREFS and Pressurization) once every month provides an adequate check of this system. The CREFS trains are initiated from the control room with flow through the HEPA and charcoal filters. Monthly heater operations dry out any moisture accumulated in the charcoal from humidity in the ambient air. Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system. The 31 day Frequency is based on the reliability of the equipment and the two train redundancy availability.

SR 3.7.10.2

This SR verifies that the required CREFS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREFS filter tests are in accordance with ASME N510-1989 (Ref. 3). The VFTP includes testing the performance of the HEPA filter, charcoal adsorber efficiency, flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.10.3

This SR verifies that each CREFS train starts and operates on an actual or simulated Safety Injection (SI) actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 4). This SR is modified by a note which provides an exception to the requirement to meet this SR in MODES 5 and 6. This is acceptable since the automatic SI actuation function is not required in these MODES.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.10.4

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 atmosphere, is periodically tested to verify proper functioning of the CREFS. During the emergency mode of operation, the CREFS is designed to pressurize the control room ≥ 0.125 inches water gauge positive pressure with respect to the outside atmosphere in order to prevent unfiltered inleakage. The CREFS is designed to maintain this positive pressure with one train. The Frequency of 18 months is adequate and has been shown to be acceptable by operating experience.

REFERENCES

1. FSAR, Section 6.4.
2. FSAR, Chapter 15.
3. ASME N510-1989.
4. Regulatory Guide 1.52, Rev. 2.

BASES

LCO (continued)

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

c. Ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

Insert E →

APPLICABILITY

In MODE 1, 2, 3, or 4, the PRF System is required to be OPERABLE to provide fission product removal associated with ECCS leaks due to a LOCA.

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

During movement of irradiated fuel in the spent fuel pool area, two trains of PRF are required to be OPERABLE and aligned to the spent fuel pool room to alleviate the consequences of a fuel handling accident.

ACTIONS

A.1

With one PRF train inoperable, action must be taken to restore OPERABLE status within 7 days. During this period, the remaining OPERABLE train is adequate to perform the PRF function. The 7 day Completion Time is based on the risk from an event occurring requiring the inoperable PRF train, and the remaining PRF train providing the required protection.

Insert F → B.1 and ~~B.2~~ C C

or B.2

In MODE 1, 2, 3, or 4, when Required Action A.1 cannot be completed within the associated Completion Time, or when both PRF trains are inoperable, 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 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.

(continued)

INSERT E

The LCO is modified by a Note allowing the PRF or spent fuel pool room (SFPR) boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, that make the penetration room boundary inoperable, 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 PRF ventilation actuation is indicated. When the SFPR boundary is inoperable, administrative controls will be in place to prevent movement of irradiated fuel or loads over the irradiated fuel. Breaches that would prevent successful completion of SR 3.7.12.6 render the SFPR boundary inoperable.

INSERT F

B.1

If the PRF system is inoperable due to a penetration room boundary being inoperable in MODE 1, 2, 3, or 4, the PRF trains cannot perform their intended functions. Action must be taken to restore the PRF boundary within 24 hours. During the period the PRF boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential radiological hazards. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour Completion Time for the post LOCA mode of operation is reasonable based on the low probability of a DBA occurring during this time period, and the use of compensatory measures. It provides a reasonable time to diagnose, plan and possibly repair, and test most problems with the PRF boundary.

BASES

ACTIONS (continued)

D C.1 and C.2

When Required Action A.1 cannot be completed within the required Completion Time, during movement of irradiated fuel assemblies in the spent fuel pool room, the OPERABLE PRF train must be started immediately or fuel movement suspended. This action ensures that the remaining train is OPERABLE, that no undetected failures preventing system operation will occur, and that any active failure will be readily detected.

If the system is not placed in operation, this action requires suspension of fuel movement, which precludes a fuel handling accident. This does not preclude the movement of fuel assemblies to a safe position.

E D.1

When two trains of the PRF System are inoperable during movement of irradiated fuel assemblies in the spent fuel pool room, action must be taken to place the unit in a condition in which the LCO does not apply. Action must be taken immediately to suspend movement of irradiated fuel assemblies in the spent fuel pool room. This does not preclude the movement of fuel to a safe position.

SURVEILLANCE REQUIREMENTS

SR 3.7.12.1

During movement of irradiated fuel in the spent fuel pool room, the two PRF trains are required to be aligned to the spent fuel pool room. When moving irradiated fuel, periodic verification of the PRF system alignment is required. During movement of irradiated fuel the potential exists for a fuel handling accident. Verification of the PRF train alignment when moving irradiated fuel provides assurance the correct system alignment is maintained to support the assumptions of the fuel handling accident analysis regarding the OPERABILITY of the PRF System. The 24-hour Frequency specified for this verification is adequate to confirm the PRF System alignment and has been shown to be acceptable by operating experience. This surveillance is modified by a note which clarifies that the surveillance need only be performed during the movement of irradiated fuel in the spent fuel pool room.

(continued)

Attachment 5
Joseph M. Farley Nuclear Plant
Request to Revise Technical Specifications
Control Room Emergency Filtration/Pressurization System
Penetration Room Filtration System

Clean-Typed Technical Specification and Bases Pages

Pages

3.7.10-1
3.7.10-2
3.7.12-1
3.7.12-2
B 3.7.10-3
B 3.7.10-4
B 3.7.10-5
B 3.7.10-6 (rollover)
B 3.7.10-7
B 3.7.12-3
B 3.7.12-4
B 3.7.12-5
B 3.7.12-6 (rollover)
B 3.7.12-7 (rollover)

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Filtration/Pressurization System (CREFS)

LCO 3.7.10 Two CREFS trains shall be OPERABLE.

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

The CREFS boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, and 4,
During movement of irradiated fuel assemblies,
During CORE ALTERATIONS.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREFS train inoperable.	A.1 Restore CREFS train to OPERABLE status.	7 days
B. Two CREFS trains inoperable due to inoperable control room boundary in MODE 1, 2, 3, or 4.	B.1 Restore control room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours
D. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies or during CORE ALTERATIONS.	D.1 Place OPERABLE CREFS train in emergency recirculation mode. OR D.2.1 Suspend CORE ALTERATIONS. AND	Immediately Immediately

(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. (continued)	D.2.2	Suspend movement of irradiated fuel assemblies.	Immediately
E. Two CREFS trains inoperable during movement of irradiated fuel assemblies or during CORE ALTERATIONS.	E.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	E.2	Suspend movement of irradiated fuel assemblies.	Immediately
F. Two CREFS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	F.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Operate each CREFS Pressurization train for ≥ 10 continuous hours with the heaters operating and each CREFS Recirculation and Filtration train for ≥ 15 minutes.	31 days
SR 3.7.10.2	Perform required CREFS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.10.3	----------NOTE---------- Not required to be performed in MODES 5 and 6. ---------- Verify each CREFS train actuates on an actual or simulated actuation signal.	18 months
SR 3.7.10.4	Verify one CREFS train can maintain a positive pressure of ≥ 0.125 inches water gauge, relative to the outside atmosphere during system operation.	18 months

3.7 PLANT SYSTEMS

3.7.12 Penetration Room Filtration (PRF) System

LCO 3.7.12 Two PRF trains shall be OPERABLE.

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

The PRF and Spent Fuel Pool Room (SFPR) boundaries may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, and 4 for post LOCA mode of operation,
During movement of irradiated fuel assemblies in the SFPR for the fuel handling accident mode of operation.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One PRF train inoperable.	A.1	Restore PRF train to OPERABLE status.	7 days
B. Two PRF trains inoperable in MODE 1, 2, 3, or 4 due to inoperable PRF boundary.	B.1	Restore PRF boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4. OR Two PRF trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	C.1 AND C.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
D. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the SFPR.	D.1 OR D.2	Place OPERABLE PRF train in operation. Suspend movement of irradiated fuel assemblies in the SFPR.	Immediately Immediately

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two PRF trains inoperable during movement of irradiated fuel assemblies in the SFPR.	E.1 Suspend movement of irradiated fuel assemblies in the SFPR.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	----------NOTE---------- Only required to be performed during movement of irradiated fuel assemblies in the SFPR. ---------- Verify two PRF trains aligned to the SFPR.	24 hours
SR 3.7.12.2	Operate each PRF train for ≥ 15 minutes in the applicable mode of operation (post LOCA and/or refueling accident).	31 days
SR 3.7.12.3	Perform required PRF filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.12.4	Verify each PRF train actuates and the normal spent fuel pool room ventilation system isolates on an actual or simulated actuation signal.	18 months
SR 3.7.12.5	Verify one PRF train can maintain a pressure ≤ -0.125 inches water gauge with respect to adjacent areas during the post LOCA mode of operation at a flow rate ≤ 5500 cfm.	18 months on a STAGGERED TEST BASIS
SR 3.7.12.6	Verify one PRF train can maintain a slightly negative pressure with respect to adjacent areas during the fuel handling accident mode of operation at a flow rate ≤ 5500 cfm.	18 months on a STAGGERED TEST BASIS

BASES

LCO

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

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

a. Fans are OPERABLE; (recirculation, filtration, Pressurization, and CRACS Fans)

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

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

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

The LCO is modified by a Note allowing the control room boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, such as hatches and inspection ports, 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

With either unit in MODES 1, 2, 3, or 4 or during movement of irradiated fuel assemblies or during CORE ALTERATIONS, CREFS must be OPERABLE to control operator exposure during and following a DBA.

During movement of irradiated fuel assemblies and CORE ALTERATIONS, the CREFS must be OPERABLE to cope with the release from a fuel handling accident.

BASES

ACTIONS

A.1

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

B.1

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

C.1 and C.2

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

(continued)

BASES

ACTIONS (continued)

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

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

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

E.1 and E.2

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

F.1

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

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing each train (CREFS and Pressurization) once every month provides an adequate check of this system. The CREFS trains are initiated from the control room with flow through the HEPA and charcoal filters. Monthly heater operations dry out any moisture accumulated in the charcoal from

(continued)

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1 (continued)

humidity in the ambient air. Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system. The 31 day Frequency is based on the reliability of the equipment and the two train redundancy availability.

SR 3.7.10.2

This SR verifies that the required CREFS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREFS filter tests are in accordance with ASME N510-1989 (Ref. 3). The VFTP includes testing the performance of the HEPA filter, charcoal adsorber efficiency, flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.10.3

This SR verifies that each CREFS train starts and operates on an actual or simulated Safety Injection (SI) actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 4). This SR is modified by a note which provides an exception to the requirement to meet this SR in MODES 5 and 6. This is acceptable since the automatic SI actuation function is not required in these MODES.

SR 3.7.10.4

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 atmosphere, is periodically tested to verify proper functioning of the CREFS. During the emergency mode of operation, the CREFS is designed to pressurize the control room ≥ 0.125 inches water gauge positive pressure with respect to the outside atmosphere in order to prevent unfiltered inleakage. The CREFS is designed to maintain this positive pressure with one train. The Frequency of 18 months is adequate and has been shown to be acceptable by operating experience.

BASES

REFERENCES

1. FSAR, Section 6.4.
2. FSAR, Chapter 15.
3. ASME N510-1989.
4. Regulatory Guide 1.52, Rev. 2.

BASES

LCO (continued)

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

c. Ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

The LCO is modified by a Note allowing the PRF or spent fuel pool room (SFPR) boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, that make the penetration room boundary inoperable, 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 PRF ventilation actuation is indicated. When the SFPR boundary is inoperable, administrative controls will be in place to prevent movement of irradiated fuel or loads over the irradiated fuel. Breaches that would prevent successful completion of SR 3.7.12.6 render the SFPR boundary inoperable.

APPLICABILITY

In MODE 1, 2, 3, or 4, the PRF System is required to be OPERABLE to provide fission product removal associated with ECCS leaks due to a LOCA.

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

During movement of irradiated fuel in the spent fuel pool area, two trains of PRF are required to be OPERABLE and aligned to the spent fuel pool room to alleviate the consequences of a fuel handling accident.

ACTIONS

A.1

With one PRF train inoperable, action must be taken to restore OPERABLE status within 7 days. During this period, the remaining OPERABLE train is adequate to perform the PRF function. The 7 day Completion Time is based on the risk from an event occurring requiring the inoperable PRF train, and the remaining PRF train providing the required protection.

(continued)

BASES

ACTIONS (continued)

B.1

If the PRF system is inoperable due to a penetration room boundary being inoperable in MODE 1, 2, 3, or 4, the PRF trains cannot perform their intended functions. Action must be taken to restore the PRF boundary within 24 hours. During the period the PRF boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential radiological hazards. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24 hour Completion Time for the post LOCA mode of operation is reasonable based on the low probability of a DBA occurring during this time period, and the use of compensatory measures. It provides a reasonable time to diagnose, plan and possibly repair, and test most problems with the PRF boundary.

C.1 and C.2

In MODE 1, 2, 3, or 4, when Required Action A.1 or B.1 cannot be completed 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 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.

D.1 and D.2

When Required Action A.1 cannot be completed within the required Completion Time, during movement of irradiated fuel assemblies in the spent fuel pool room, the OPERABLE PRF train must be started immediately or fuel movement suspended. This action ensures that the remaining train is OPERABLE, that no undetected failures preventing system operation will occur, and that any active failure will be readily detected.

If the system is not placed in operation, this action requires suspension of fuel movement, which precludes a fuel handling accident. This does not preclude the movement of fuel assemblies to a safe position.

(continued)

BASES

ACTIONS (continued)

E.1

When two trains of the PRF System are inoperable during movement of irradiated fuel assemblies in the spent fuel pool room, action must be taken to place the unit in a condition in which the LCO does not apply. Action must be taken immediately to suspend movement of irradiated fuel assemblies in the spent fuel pool room. This does not preclude the movement of fuel to a safe position.

SURVEILLANCE REQUIREMENTS

SR 3.7.12.1

During movement of irradiated fuel in the spent fuel pool room, the two PRF trains are required to be aligned to the spent fuel pool room. When moving irradiated fuel, periodic verification of the PRF system alignment is required. During movement of irradiated fuel the potential exists for a fuel handling accident. Verification of the PRF train alignment when moving irradiated fuel provides assurance the correct system alignment is maintained to support the assumptions of the fuel handling accident analysis regarding the OPERABILITY of the PRF System. The 24-hour Frequency specified for this verification is adequate to confirm the PRF System alignment and has been shown to be acceptable by operating experience. This surveillance is modified by a note which clarifies that the surveillance need only be performed during the movement of irradiated fuel in the spent fuel pool room.

SR 3.7.12.2

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. This Surveillance requires that the operation of the PRF System be verified in the applicable alignment (post LOCA and/or refueling accident). The surveillance is applied separately to each operating mode of the PRF System as required by plant conditions. In MODE 1-4, operational testing in the post LOCA alignment is required to verify the capability of the system to perform in this capacity. Operational testing of the PRF System in the refueling accident alignment is only required to be performed to support the movement of irradiated fuel in the spent fuel pool storage room (when the potential exists for a fuel handling accident).

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.12.2 (continued)

Systems that do not credit the operation of heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system. The system is initiated from the control room with flow through the HEPA and charcoal filters. The 31 day Frequency is based on the known reliability of the equipment and the two train redundancy available.

SR 3.7.12.3

This SR verifies that the required PRF System testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The PRF System filter tests are in accordance with ASME N510-1989 (Ref. 6). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.12.4

This SR verifies that each PRF train starts and operates on an actual or simulated Phase B actuation signal. In addition, the normal spent fuel pool ventilation system must be verified to isolate on an actual or simulated spent fuel pool ventilation low differential pressure signal and on an actual or simulated spent fuel pool high radiation signal. The 18 month Frequency is consistent with Reference 7.

SR 3.7.12.5

This SR verifies the integrity of the ECCS pump rooms and penetration area boundary. The ability of the boundary to maintain negative pressure with respect to potentially uncontaminated adjacent areas is periodically tested to verify proper function of the PRF System. During the post-LOCA mode of operation, the PRF System is designed to maintain a slight negative pressure in the ECCS pump rooms and penetration area boundary, to prevent unfiltered LEAKAGE. The PRF System is designed to maintain ≤ -0.125 inches water gauge with respect to adjacent area pressure (as measured by the ΔP between the PRF mechanical equipment room and the RHR Heat Exchanger Room) at a flow rate of ≤ 5,500 cfm.

An 18 month Frequency (on a STAGGERED TEST BASIS) is consistent with Reference 7.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.12.6

During the fuel handling mode of operation, the PRF is designed to maintain a slightly negative pressure in the spent fuel pool room with respect to atmospheric pressure and surrounding areas at a flow rate of ≤ 5,500 cfm, to prevent unfiltered leakage. The slightly negative pressure is verified by using a non-rigorous method that yields some observable identification of the slightly negative pressure. Examples of non-rigorous methods are smoke sticks, hand held differential pressure indicators, or other measurement devices that do not provide for an absolute measurement.

REFERENCES

1. FSAR, Section 6.2.3.
2. FSAR, Section 9.4.2.
3. FSAR, Sections 15.4.1 and 15.4.5.
4. Regulatory Guide 1.25.
5. 10 CFR 100.
6. ASME N510-1989.
7. Regulatory Guide 1.52 (Rev. 2).