



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

May 14, 2001

Mr. J. B. Beasley, Jr.
Vice President
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2 RE: ISSUANCE
OF AMENDMENTS (TAC NOS. MB0546 AND MB0547)

Dear Mr. Beasley:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 121 to Facility Operating License NPF-68 and Amendment No. 99 to Facility Operating License NPF-81 for the Vogtle Electric Generating Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated November 6, 2000, as supplemented by letter dated February 9, 2001.

The amendments revised TS 3.7.10, "Control Room Emergency Filtration System (CREFS) - Both Units Operating," TS 3.7.11, "Control Room Emergency Filtration System (CREFS) - One Unit Operating," and TS 3.7.13, "Piping Penetration Area Filtration and Exhaust System (PPAFES)," to establish actions to be taken for inoperable ventilation systems due to a degraded control room pressure boundary or piping penetration area pressure boundary, respectively. Specifically, the changes allow the pressure boundaries of ventilation systems such as CREFS and PPAEFS to be opened intermittently under administrative control. A new condition is also added that allows 24 hours to restore inoperable CREFS and PPAFES pressure boundaries before requiring the units to perform an orderly shutdown. The applicable TS Bases have been revised to document these TS changes and to provide supporting information. These changes are based on Technical Specifications Task Force (TSTF)-287, Revision 5, to the Standard Technical Specifications.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Ramin Assa".

Ramin Assa, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-424 and 50-425

Enclosures:

1. Amendment No. 121 to NPF-68
2. Amendment No. 99 to NPF-81
3. Safety Evaluation

cc w/encls: See next page

LR2-058

May 14, 2001

Mr. J. B. Beasley, Jr.
Vice President
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201

DISTRIBUTION:
PUBLIC
PDII-1 R/F
RidsNrrDlpmLpdii
RidsNrrDlpmLpdii1
RAssa (paper copy) CHawes (paper copy)
RidsOgcRp
RidsAcrcAcnwMailCenter
GHill (4)
RidsNrrWBeckner
RidsRgn2MailCenter

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS RE: (TAC NOS. MB0546 AND MB0547)

Dear Mr. Beasley:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 121 to Facility Operating License NPF-68 and Amendment No. 99 to Facility Operating License NPF-81 for the Vogtle Electric Generating Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated November 6, 2000, supplemented by letter dated February 9, 2001.

The amendments revised TS 3.7.10, "Control Room Emergency Filtration System (CREFS) - Both Units Operating," TS 3.7.11, "Control Room Emergency Filtration System (CREFS) - One Unit Operating," and TS 3.7.13, "Piping Penetration Area Filtration and Exhaust System (PPAFES)," to establish actions to be taken for inoperable ventilation systems due to a degraded control room pressure boundary or piping penetration area pressure boundary, respectively. Specifically, the changes allow the pressure boundaries of ventilation systems such as CREFS and PPAEFS to be opened intermittently under administrative control. A new condition is also added that allows 24 hours to restore inoperable CREFS and PPAFES pressure boundaries before requiring the units to perform an orderly shutdown. The applicable TS Bases have been revised to document these TS changes and to provide supporting information. These changes are based on Technical Specifications Task Force (TSTF)-287, Revision 5, to the Standard Technical Specifications.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/
Ramin Assa, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-424 and 50-425

Enclosures:

1. Amendment No. 121 to NPF-68
2. Amendment No. 99 to NPF-81
3. Safety Evaluation

cc w/encls: See next page

DOCUMENT NAME: G:\PDII-1\VOGTLE\MB0546-AMD.wpd *See previous concurrence

OFFICE	PDII-1/PM	PDII-1/LA	RTSB*	PDII-1/SC	OGC
NAME	RAssa:mw	CHawes	RDennig	REmch	A Cogges
DATE	4/20/01	4/20/01	4/18/01	4/24/01	5/1/01

OFFICIAL RECORD COPY

Vogtle Electric Generating Plant

cc:

Mr. J. A. Bailey
Manager, Licensing
Southern Nuclear Operating
Company, Inc.
P. O. Box 1295
Birmingham, Alabama 35201-1295

Mr. J. Gasser
General Manager, Vogtle Electric
Generating Plant
Southern Nuclear Operating
Company, Inc.
P. O. Box 1600
Waynesboro, Georgia 30830

Office of Planning and Budget
Room 615B
270 Washington Street, SW.
Atlanta, Georgia 30334

Mr. J. D. Woodard
Executive Vice President
Southern Nuclear Operating
Company, Inc.
P. O. Box 1295
Birmingham, Alabama 35201-1295

Steven M. Jackson
Senior Engineer - Power Supply
Municipal Electric Authority
of Georgia
1470 Riveredge Parkway, NW.
Atlanta, Georgia 30328-4684

Harold Reheis, Director
Department of Natural Resources
205 Butler Street, SE. Suite 1252
Atlanta, Georgia 30334

Attorney General
Law Department
132 Judicial Building
Atlanta, Georgia 30334

Mr. J. D. Sharpe
Resident Manager
Oglethorpe Power Corporation
Alvin W. Vogtle Nuclear Plant
P. O. Box 1600
Waynesboro, Georgia 30830

Charles A. Patrizia, Esquire
Paul, Hastings, Janofsky & Walker
10th Floor
1299 Pennsylvania Avenue
Washington, DC 20004-9500

Arthur H. Domby, Esquire
Troutman Sanders
NationsBank Plaza
600 Peachtree Street, NE.
Suite 5200
Atlanta, Georgia 30308-2216

Resident Inspector
Vogtle Plant
8805 River Road
Waynesboro, Georgia 30830

Office of the County Commissioner
Burke County Commission
Waynesboro, Georgia 30830



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

VOGTLE ELECTRIC GENERATING PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.121
License No. NPF-68

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Vogtle Electric Generating Plant, Unit 1 (the facility) Facility Operating License No. NPF-68 filed by the Southern Nuclear Operating Company, Inc. (Southern Nuclear), acting for itself, Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the licensees), dated November 6, 2000, supplemented by letter dated February 9, 2001, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

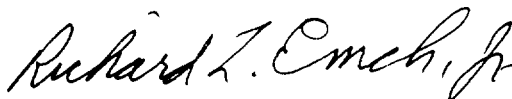
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-68 is hereby amended to read as follows:

Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 121 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch, Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: May 14, 2001



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

VOGTLE ELECTRIC GENERATING PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 99
License No. NPF-81

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Vogtle Electric Generating Plant, Unit 2 (the facility) Facility Operating License No. NPF-81 filed by the Southern Nuclear Operating Company, Inc. (Southern Nuclear), acting for itself, Georgia Power Company Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the licensees), dated November 6, 2000, supplemented by letter dated February 9, 2001, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-81 is hereby amended to read as follows:

Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 99 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch, Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: May 14, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 121

FACILITY OPERATING LICENSE NO. NPF-68

DOCKET NO. 50-424

AND

TO LICENSE AMENDMENT NO. 99

FACILITY OPERATING LICENSE NO. NPF-81

DOCKET NO. 50-425

Replace the following pages of the Appendix A Technical Specifications and associated Bases with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change. Overleaf pages are provided for document completeness.

<u>Remove</u>	<u>Insert</u>
3.7.10-1	3.7.10-1
3.7.10-2	3.7.10-2
--	3.7.10-3
3.7.11-1	3.7.11-1
3.7.11-2	3.7.11-2
3.7.11-3	3.7.11-3
3.7.13-1	3.7.13-1
--	3.7.13-2
B 3.7.10-4	B 3.7.10-4
B 3.7.10-5	B 3.7.10-5
B 3.7.10-6	B 3.7.10-6
B 3.7.10-7	B 3.7.10-7
--	B 3.7.10-8
--	B 3.7.10-9
B 3.7.11-1	B 3.7.11-1
B 3.7.11-2	B 3.7.11-2
B 3.7.11-3	B 3.7.11-3
B 3.7.11-4	B 3.7.11-4
B 3.7.11-5	B 3.7.11-5
--	B 3.7.11-6
B 3.7.13-2	B 3.7.13-2
B 3.7.13-3	B 3.7.13-3
--	B 3.7.13-4
--	B 3.7.13-5
--	B 3.7.13-6

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Verify control room air temperature $\leq 85^{\circ}\text{F}$.	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
	<u>OR</u> 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
	<u>AND</u> 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
	<u>OR</u> 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
	<u>AND</u> 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.	6 hours
	<u>AND</u> C.2 Be in MODE 5.	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 $\pm 10\%$.	18 months on a STAGGERED TEST BASIS

BASES (continued)

APPLICABLE
SAFETY ANALYSES

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

The analysis of toxic gas releases demonstrates that the 8 hour toxicity limit is not exceeded in the control room and there is sufficient time between detection and reaching the short term toxicity limit, such that the operators have time to put on breathing apparatus following a toxic chemical release, as presented in Reference 1. CREFS is not required for toxic gas.

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

The CREFS satisfies Criterion 3 of the NRC Policy Statement.

LCO

Two independent and redundant CREFS trains per unit 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 and ensure a control room temperature of $\leq 86^{\circ}\text{F}$ are OPERABLE in both trains. A CREFS train is OPERABLE when the associated:

- a. Fan is OPERABLE;
- b. HEPA filters and charcoal adsorbers are not excessively restricting flow, and are capable of performing their filtration functions;
- c. Heater, demister, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained; and

(continued)

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 $\leq 85^{\circ}\text{F}$ 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.
-

B 3.7 PLANT SYSTEMS

B 3.7.13 Piping Penetration Area Filtration and Exhaust System (PPAFES)

BASES

BACKGROUND

The PPAFES maintains a negative pressure in the piping penetration area and Engineered Safety Feature (ESF) pump rooms and filters the exhaust from the negative pressure boundary. The PPAFES minimizes the release of airborne radioactivity to the outside atmosphere resulting from recirculation line and component leakage into the piping penetration area Emergency Core Cooling System (ECCS) and ESF pump rooms during an accident condition.

The PPAFES consists of two independent and redundant trains. Each train consists of a heater, a prefilter or demister, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Ductwork, valves or dampers, and instrumentation, as well as demisters, functioning to reduce the relative humidity of the air stream, also form part of the system. A second bank of HEPA filters, which follows the adsorber section, collects carbon fines and provides backup in case of failure of the main HEPA filter bank. The downstream HEPA filter is not credited in the accident analysis. The system initiates filtered ventilation following receipt of a containment ventilation isolation signal.

The PPAFES is a standby system, parts of which may also operate during normal unit operations. During emergency operations, the PPAFES dampers are realigned and fans are started to initiate filtration. Upon receipt of the actuating signal(s), normal air discharges from the penetration room, the penetration room is isolated, and the stream of ventilation air discharges through the system filter trains. The prefilters remove any large particles in the air, as well as any entrained water droplets, to prevent excessive loading of the HEPA filters and charcoal adsorbers.

The PPAFES is discussed in the FSAR, Subsections 6.5.1, 9.4.3, and 15.6.5 (Refs. 1, 2, and 3, respectively) since it may be used for normal, as well as post accident, atmospheric cleanup functions. Heaters are included for

(continued)

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
REQUIREMENTSSR 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 $15,500 \pm 10\%$ cfm in the penetration room to prevent unfiltered LEAKAGE. The Frequency of 18 months is consistent with the guidance provided in NUREG-0800 (Ref. 6).

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

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

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

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

(continued)

BASES (continued)

REFERENCES

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



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 121 TO FACILITY OPERATING LICENSE NPF-68
AND AMENDMENT NO. 99 TO FACILITY OPERATING LICENSE NPF-81
SOUTHERN NUCLEAR OPERATING COMPANY
VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2
DOCKET NOS. 50-424 AND 50-425

1.0 INTRODUCTION

By letter dated November 6, 2000, Southern Nuclear Operating Company, (SNC/Licensee), proposed license amendments to change the Technical Specifications (TS) for the Vogtle Electric Generating Plant (Vogtle), Units 1 and 2. The proposed changes would revise TS 3.7.10, "Control Room Emergency Filtration System (CREFS) - Both Units Operating," TS 3.7.11, "Control Room Emergency Filtration System (CREFS) - One Unit Operating," and TS 3.7.13, "Piping Penetration Area Filtration and Exhaust System (PPAFES)," to establish actions to be taken for inoperable ventilation systems due to a degraded control room pressure boundary or piping penetration area pressure boundary, respectively. The proposed changes would allow up to 24 hours to restore the pressure boundary to operable status when all ventilation trains are inoperable due to an inoperable pressure boundary in MODES 1, 2, 3, and 4. In addition, a Limiting Condition for Operation (LCO) Note would be added to allow the pressure boundary to be opened intermittently under administrative control without affecting CREFS or PPAFES operability. The applicable TS Bases have been revised to document the TS changes and to provide supporting information. These changes are based on Technical Specifications Task Force (TSTF)-287, Revision 5, to the Standard Technical Specifications.

In response to comments by the NRC staff, on February 9, 2001, the licensee submitted revisions to its original request dated November 6, 2000. In the letter dated February 9, 2001, the licensee proposed to revise LCO 3.7.10, Conditions A, B, and C, by replacing the words "due to reasons other than inoperable control room boundary," with the words "for reasons other than Condition D." Similarly, for LCO 3.7.11, Conditions A, B, C, D, and E, the licensee proposed to revise the words "due to reasons other than inoperable control room boundary," with the words "for reasons other than Condition F." The associated Bases were revised accordingly. Finally, the licensee proposed to restore the Bases for LCO 3.7.13, Required Action A.1, to its original wording by deleting the phrase "due to reasons other than an inoperable PPAFES boundary," that was added by letter dated November 6, 2000. The supplemental letter dated February 9, 2001, did not change the scope of the November 6, 2000, application and the initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

The existing LCOs 3.7.10 and 3.7.11 surveillance requirements that test the integrity of the control room boundary require a positive pressure limit to be satisfied with one ventilation train operating. While other surveillance requirements in the same specification test the operability and function of the ventilation train, the pressure test ensures that the control room pressure boundary leak tightness is adequate to meet design assumptions for calculation of operator doses for design basis accidents.

The existing LCO 3.7.13 surveillance requirements that test the integrity of the PPAFES pressure boundary require a negative pressure limit to be satisfied with one ventilation train operating. While other surveillance requirements in the same specification test the operability and function of the ventilation train, the pressure test ensures that the boundary leak tightness is adequate to meet design assumptions for calculation of plant personnel doses for design basis accidents.

Currently, there are no corresponding Conditions, Required Actions, or Completion Times specified in LCOs 3.7.10, 3.7.11 and 3.7.13 should the pressure boundary surveillances not be met. Under the existing specifications, LCO 3.0.3 must be entered (for total system inoperability). Requiring the plant to enter LCO 3.0.3 when the ventilation boundary is not intact does not provide time to effect required repairs or corrective maintenance activities.

The proposed change is similar in nature to STS LCOs for the secondary containment for a boiling-water reactor and the shield building for a pressurized-water reactor, which allows 24 hours to restore the secondary containment or the shield building envelope to operable status before requiring an orderly shutdown from operating conditions.

3.0 EVALUATION

3.1 CONTROL ROOM AREA VENTILATION SYSTEM

The proposed changes to TS 3.7.10 and TS 3.7.11 are:

1. A Note has been added to LCO 3.7.10 and LCO 3.7.11 for the CREFS to allow the control room boundary to be opened intermittently under administrative controls. Corresponding Bases have been added which establish the administrative controls that are required to minimize the consequences of the open boundary.
2. A new Condition D is added to LCO 3.7.10 and a new Condition F is added to LCO 3.7.11 to specify that 24 hours are allowed to restore an inoperable control room boundary to operable status. All other conditions have been administratively re-labeled to support this change. Corresponding Bases are added to support this change.

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

New Condition D indicates that if the control room boundary is inoperable in MODES 1, 2, 3, and 4 such that the CREFS trains cannot establish or maintain the required pressure, action must be taken to restore control room pressure boundary to an OPERABLE status within 24 hours. The 24-hour Completion Time is reasonable based on the low probability of a design basis accident occurring during this time period and compensatory measures available to the operator minimize the consequences of potential hazards.

The proposed changes would allow 24 hours (during Modes 1, 2, 3, and 4) to restore the capability to maintain control room boundary pressure before requiring the unit to perform an orderly shutdown and also allow intermittent opening of the control room boundary under administrative controls. During the period that the control room boundary is inoperable, appropriate compensatory measures consistent with the intent of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix A, General Design Criteria (GDC) 19 will be utilized to protect the control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity and to ensure physical security. These preplanned measures will be available to address these concerns for intentional and unintentional entry into the condition. For example, when the control room boundary is opened for other than entry through doors, the proposed bases state that, in addition to other necessary measures, a dedicated individual be stationed in the area keeping continuous contact with the control room to rapidly restore the boundary.

Additionally, the proposed changes are considered acceptable because of the low probability of an event requiring an intact control room boundary occurring during the 24-hour action completion time associated with Condition D in LCO 3.7.10 or Condition F in LCO 3.7.11.

The proposed changes are in conformance with TSTF-287. Based on the low probability of an event occurring in this time and the availability of compensatory measures consistent with GDC 19 to minimize the consequences during an event, the proposed changes are considered acceptable.

3.2 PIPING PENETRATION AREA FILTRATION AND EXHAUST SYSTEM

The proposed changes to TS 3.7.13 are:

1. A Note has been added to LCO 3.7.13 for the PPAFES to allow the PPAFES pressure boundary to be opened intermittently under administrative controls. Corresponding Bases have been added which establish the administrative controls that are required to minimize the consequences of the open boundary.
2. A new Condition B is added to LCO 3.7.13 to specify that 24 hours are allowed to restore an inoperable PPAFES pressure boundary to operable status. All other conditions have been administratively re-labeled to support this change. Corresponding Bases are added to support this change.

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

continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for PPAFES boundary isolation is indicated.

New Condition B indicates that if the PPAFES pressure boundary is inoperable in MODES 1, 2, 3, and 4 such that the PPAFES trains cannot establish or maintain the required pressure, action must be taken to restore PPAFES pressure boundary to an OPERABLE status within 24 hours. The 24-hour Completion Time is reasonable based on the low probability of a design basis accident occurring during this time period and compensatory measures available to the operator minimize the consequences of potential hazards.

The proposed changes would allow 24 hours (during Modes 1, 2, 3, and 4) to restore the capability to maintain PPAFES boundary pressure before requiring the unit to perform an orderly shutdown and also allow intermittent opening of the PPAFES pressure boundary under administrative controls. During the period that the PPAFES pressure boundary is inoperable, appropriate compensatory measures consistent with the intent of 10 CFR Part 50, Appendix A, GDC 19, 60 and 64 and 10 CFR Part 100 will be utilized to protect the plant personnel from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity and to ensure physical security. These preplanned measures will be available to address these concerns for intentional and unintentional entry into the condition. For example, when the PPAFES pressure boundary is opened for other than entry through doors, the proposed Bases state, in addition to other necessary measures, that a dedicated individual be stationed in the area keeping continuous contact with the control room to rapidly restore the boundary.

Additionally, the proposed changes are considered acceptable because of the low probability of an event requiring an intact PPAFES pressure boundary occurring during the 24-hour action completion time associated with Condition B.

The proposed changes are in conformance with TSTF-287. Based on the low probability of an event occurring in this time and the availability of compensatory measures consistent with GDC 19, 60, 64 and 10 CFR Part 100 to minimize the consequences during an event, the proposed changes are considered acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Georgia State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (65 FR 77926). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact

statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: R. Giardina
R. Assa

Date: May 14, 2001