



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

November 25, 2008

Mr. Tom E. Tynan  
Vice President - Vogtle  
Vogtle Electric Generating Plant  
7821 River Road  
Waynesboro, GA 30830

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2, ISSUANCE OF AMENDMENTS REGARDING CONTROL ROOM ENVELOPE HABITABILITY, USING THE TECHNICAL SPECIFICATION TASK FORCE TRAVELER, TSTF-448, REVISION 3 (TAC NOS. MD8201 AND MD8202)

Dear Mr. Tynan:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 154 to Facility Operating License NPF-68 and Amendment No. 135 to Facility Operating License NPF-81 for the Vogtle Electric Generating Plant, Units 1 and 2. The amendments consist of changes to the Appendix A Technical Specifications (TSs) and the Appendix D Additional Conditions in response to your application dated February 29, 2008.

The amendment modifies the TS requirements and Additional Conditions related to control room emergency ventilation systems to establish more effective and appropriate actions to ensure the habitability of the control room envelope. The change is based on Technical Specification Task Force (TSTF) traveler, TSTF-448, Revision 3.

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

Sincerely,

A handwritten signature in cursive script that reads "Robert Martin".

Robert E. Martin, Senior Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-424 and 50-425

Enclosures:

1. Amendment No. 154 to NPF-68
2. Amendment No. 135 to NPF-81
3. Safety Evaluation

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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. 154  
License No. NPF-68

1. The U.S. 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. (the licensee), acting for itself, Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the owners), dated February 29, 2008, 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. 154, 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.

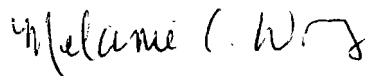
3. Accordingly, the license is hereby amended by page changes to the Additional Conditions as indicated in the attachment to this license amendment and paragraph 2.C(11) of Facility Operating License No. NPF-68 is hereby amended to read as follows:

Additional Conditions

The Additional Conditions contained in Appendix D, as revised through Amendment No. 154, are hereby incorporated into this license. Southern Nuclear shall operate the facility in accordance with the Additional Conditions.

4. This license amendment is effective as of its date of issuance and shall be implemented within 90 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Melanie C. Wong, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to License No. NPF-68  
the Technical Specifications and  
the Additional Conditions

Date of Issuance: November 25, 2008



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. 135  
License No. NPF-81

1. The U.S. 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. (the licensee), acting for itself, Georgia Power Company Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the owners), dated February 29, 2008, 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. 135, 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.

The Surveillance Requirements (SRs) contained in the Appendix A Technical Specifications and listed below are not required to be performed immediately upon implementation of Amendment No. 74. The SRs listed below shall be successfully demonstrated prior to the time and condition specified below for each:

- a) DELETED
  - b) DELETED
  - c) SR 3.8.1.120 shall be successfully demonstrated at the first regularly scheduled performance after implementation of this license amendment.
3. Accordingly, the license is hereby amended by page changes to the Additional Conditions as indicated in the attachment to this license amendment and paragraph 2.C(5) of Facility Operating License No. NPF-81 is hereby amended to read as follows:

Additional Conditions

The Additional Conditions contained in Appendix D, as revised through Amendment No. 135, are hereby incorporated into this license. Southern Nuclear shall operate the facility in accordance with the Additional Conditions

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Melanie C. Wong, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to License No. NPF-81, the Technical  
Specifications and the Additional Conditions

Date of Issuance: November 25, 2008

ATTACHMENT

TO LICENSE AMENDMENT NO. 154

FACILITY OPERATING LICENSE NO. NPF-68

DOCKET NO. 50-424

AND

TO LICENSE AMENDMENT NO. 135

FACILITY OPERATING LICENSE NO. NPF-81

DOCKET NO. 50-425

Replace the following pages of the Licenses and the Appendix A Technical Specifications (TSs) with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

License

License No. NPF-68, page 4  
License No. NPF-68, page 4a  
License No. NPF-81, page 4  
License No. NPF-81, page 4a

Appendix A TSs

3.7.10-1  
3.7.10-2  
3.7.10-3  
-  
3.7.11-1  
3.7.11-2  
3.7.11-3  
3.7.12-1  
3.7.12-3  
-  
-

License No. NPF-68, Appendix D  
Page 2

License No. NPF-81, Appendix D

Page 1 of 1

Insert Pages

License

License No. NPF-68, page 4  
License No. NPF-68, page 4a  
License No. NPF-81, page 4  
License No. NPF-81, page 4a

Appendix A TSs

3.7.10-1  
3.7.10-2  
3.7.10-3  
3.7.10-4  
3.7.11-1  
3.7.11-2  
3.7.11-3  
3.7.12-1  
3.7.12-3  
5.5-19  
5.5-20

License No. NPF-68, Appendix D  
Page 2

License No. NPF-81, Appendix D

Page 1 of 1

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No.154 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) Southern Nuclear Operating Company shall be capable of establishing containment hydrogen monitoring within 90 minutes of initiating safety injection following a loss of coolant accident.

(4) DELETED

(5) DELETED

(6) DELETED

(7) DELETED

(8) DELETED

(9) DELETED

(10) Mitigation Strategy License Condition

The licensee shall develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

(a) Fire fighting response strategy with the following elements:

1. Pre-defined coordinated fire response strategy and guidance
2. Assessment of mutual aid fire fighting assets
3. Designated staging areas for equipment and materials
4. Command and control
5. Training of response personnel

(b) Operations to mitigate fuel damage considering the following:

1. Protection and use of personnel assets
2. Communications
3. Minimizing fire spread
4. Procedures for implementing integrated fire response strategy
5. Identification of readily-available pre-staged equipment
6. Training on integrated fire response strategy
7. Spent fuel pool mitigation measures

(c) Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

(11) Additional Conditions

The Additional Conditions contained in Appendix D, as revised through Amendment No. 154 are hereby incorporated into this license. Southern Nuclear shall operate the facility in accordance with the Additional Conditions.

- D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70. These include (a) an exemption from the requirements of 10 CFR 70.24 for two criticality monitors around the fuel storage area, and (b) an exemption from the requirements of Paragraph III.D.2(b)(ii) of Appendix J of 10 CFR 50, the testing of containment air locks at times when containment integrity is not required. The special circumstances regarding exemption b are identified in Section 6.2.6 of SSER 5.

An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1967, issued August 21, 1986, and relieved GPC from the requirement of having a criticality alarm system. GPC and Southern Nuclear are hereby exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.

These exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. The exemptions in items b and c above are granted pursuant to 10 CFR 50.12. With



- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect, and is subject to the additional conditions specified or incorporated below.

(1) Maximum Power Level

Southern Nuclear is authorized to operate the facility at reactor core power levels not in excess of 3625.6 megawatts thermal (100 percent power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 135 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.

The Surveillance Requirements (SRs) contained in the Appendix A Technical Specifications and listed below are not required to be performed immediately upon implementation of Amendment No. 74. The SRs listed below shall be successfully demonstrated prior to the time and condition specified below for each:

- a) DELETED
  - b) DELETED
  - c) SR 3.8.1.20 shall be successfully demonstrated at the first regularly scheduled performance after implementation of this license amendment.
- (3) Southern Nuclear Operating Company shall be capable of establishing containment hydrogen monitoring within 90 minutes of initiating safety injection following a loss of coolant accident.
- (4) Mitigation Strategy License Condition

The licensee shall develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
  - 1. Pre-defined coordinated fire response strategy and guidance
  - 2. Assessment of mutual aid fire fighting assets
  - 3. Designated staging areas for equipment and materials
  - 4. Command and control
  - 5. Training of response personnel

- (b) Operations to mitigate fuel damage considering the following:
1. Protection and use of personnel assets
  2. Communications
  3. Minimizing fire spread
  4. Procedures for implementing integrated fire response strategy
  5. Identification of readily-available pre-staged equipment
  6. Training on integrated fire response strategy
  7. Spent fuel pool mitigation measures

- (c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
  2. Dose to onsite responders

(5) Additional Conditions

The Additional Conditions contained in Appendix D, as revised through Amendment No. 135 are hereby incorporated into this license. Southern Nuclear shall operate the facility in accordance with the Additional Conditions.

- D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70. These include (a) an exemption from the requirements of 10 CFR 70.24 for two criticality monitors around the fuel storage area, and (b) an exemption from the requirements of Paragraph III.D.2(b)(ii) of Appendix J of 10 CFR 50, the testing of containment air locks at times when containment integrity is not required. The special circumstances regarding exemption b are identified in Section 6.2.6 of SSER 8.

Amendment Number	Additional Condition	Implementation Date
102	The licensee will implement all applicable crane, load path and height, rigging and load testing guidelines of NUREG-0612 and ANSI Standard B30.2, as described in the licensee's letters dated September 4, 1997, May 19 and June 12, 1998, and evaluated in the staff's Safety Evaluation dated June 29, 1998.	Before and during reracking operations, as appropriate.
154	<p>Upon implementation of the Amendment adopting TSTF-448, Revision 3, the determination of CRE unfiltered air inleakage as required by SR 3.7.10.5, in accordance with TS 5.5.20.c(i), and the measurement of CFE pressure as required by Specification 5.5.20.d, shall be considered met. Following implementation:</p> <p>(a) The first performance of SR 3.7.10.5, in accordance with Specification 5.5.20.c(i), shall be within the specified frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from March 23, 2004, the date of the most recent successful tracer gas test, as stated in the June 16, 2004 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.</p> <p>(b) The first performance of the periodic assessment of CRE habitability, specification 5.5.20.c(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from March 23, 2004, the date of the most recent successful tracer gas test, as stated in the June 16, 2004 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.</p> <p>The first performance of the periodic measurement of CRE pressure, specification 5.5.20.d, shall be within 18 months, plus the 138 days allowance of SR 3.0.2, as measured from March 23, 2004, the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.</p>	As stated in the Additional Condition

APPENDIX D

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-81

Amendment Number	Additional Condition	Implementation Date
78	The licensee shall implement a procedure that will prohibit entry into an extended Emergency Diesel Generator Allowed Outage time (14 days), for scheduled maintenance purposes, if severe weather conditions are expected, as described in the licensee's application dated January 22, 1998, as supplemented by letter dated March 18, 1998, and evaluated in the staff's Safety Evaluation dated May 20, 1998.	Prior to implementation of Amendment No. 78.
80	The UFSAR will be updated to include the heat load that will ensure the temperature limit of 170 F will not be exceeded, as well as the requirement to perform a heat load evaluation before transferring irradiated fuel to either pool, as described in the licensee's letters dated September 4, 1997, May 19 and June 12, 1998, and evaluated in the staff's Safety Evaluation dated June 29, 1998.	To be included in the next appropriate UFSAR update following the installation of the Unit 1 spent fuel racks.
135	<p>Upon implementation of the Amendment adopting TSTF-448, Revision 3, the determination of CRE unfiltered air leakage as required by SR 3.7.10.5, in accordance with TS 5.5.20.c.(i), and the measurement of CFE pressure as required by Specification 5.5.20.d, shall be considered met. Following implementation:</p> <p>(a) The first performance of SR 3.7.10.5, in accordance with Specification 5.5.20.c.(i), shall be within the specified frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from March 23, 2004, the date of the most recent successful tracer gas test, as stated in the June 16, 2004 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.</p> <p>(b) The first performance of the periodic assessment of CRE habitability, specification 5.5.20.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from March 23, 2004, the date of the most recent successful tracer gas test, as stated in the June 16, 2004 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.</p> <p>The first performance of the periodic measurement of CRE pressure, specification 5.5.20.d, shall be within 18 months, plus the 138 days allowance of SR 3.0.2, as measured from March 23, 2004, the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.</p>	As stated in the Additional Condition

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 envelope (CRE) 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

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. One or more CREFS trains inoperable due to inoperable CRE boundary.</p>	<p>D.1 Initiate action to implement mitigating actions.</p>	<p>Immediately</p>
	<p><u>AND</u></p> <p>D.2 Verify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits.</p>	<p>24 hours</p>
	<p><u>AND</u></p> <p>D.3 Restore CRE boundary to OPERABLE status.</p>	<p>90 days</p>
<p>E. Control room air temperature not within limit.</p>	<p>E.1 Restore control room air temperature to within limit.</p>	<p>7 days</p>

(continued)

ACTIONS (continued)

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

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Verify control room air temperature $\leq 85^{\circ}\text{F}$ .	12 hours
SR 3.7.10.2	Operate each CREFS train for $\geq 10$ 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 the 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	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program



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 envelope (CRE) boundary may be opened intermittently under administrative control.

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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.  <u>OR</u>  B.2 Place one CREFS train in the operating unit in the emergency mode.	7 days          7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One CREFS train inoperable in each unit 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

(continued)

**ACTIONS (continued)**

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. One or more CREFS trains inoperable due to inoperable CRE boundary.	F.1 Initiate action to implement mitigating actions.	Immediately
	<u>AND</u>	
	F.2 Verify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits.	24 hours
	<u>AND</u>	
	F.3 Restore CRE boundary to OPERABLE status.	90 days
G. Control room air temperature not within limit.	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

3.7.12 Control Room Emergency Filtration System (CREFS) - Both Units Shutdown

LCO 3.7.12 Four CREFS trains shall be OPERABLE.

-----NOTE-----

The control room envelope (CRE) boundary may be opened intermittently under administrative control.

APPLICABILITY: Both units with average Reactor Coolant Temperature  $\leq 200^{\circ}\text{F}$  during movement of irradiated fuel or CORE ALTERATIONS in either unit.

**ACTIONS**

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREFS train inoperable.	A.1 Lock closed the outside air (OSA) intake dampers of the affected unit and lock open the OSA intake dampers of the unaffected unit.	7 days
	<u>OR</u> A.2 Place one CREFS train in the unaffected unit in the emergency mode.	7 days
B. One CREFS train inoperable in each unit.	B.1 Place one CREFS train in the emergency mode.	7 days

(continued)

**ACTIONS (continued)**

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. Four CREFS trains inoperable.</p> <p><u>OR</u></p> <p>The CREFS train required in the emergency mode by Required Actions of Conditions A, B, C, or D not capable of being powered by an OPERABLE emergency power source.</p> <p><u>OR</u></p> <p>One or more CREFS trains inoperable due to an inoperable CRE boundary.</p>	<p>E.1 Suspend movement of irradiated fuel assemblies.</p>	Immediately
	<p><u>AND</u></p> <p>E.2 Suspend CORE ALTERATIONS.</p>	Immediately
<p>F. Control room air temperature not within limit.</p>	<p>F.1 Restore control room air temperature to within limit.</p>	7 days

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
<p>SR 3.7.12.1 The Surveillance Requirements of Specification 3.7.10 are applicable.</p>	In accordance with applicable SRs.

5.5 Programs and Manuals (continued)

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5.5.20 Control Room Envelope Habitability Program

A Control Room Envelope (CRE) Habitability Program shall be established and implemented to ensure that CRE habitability is maintained such that, with an OPERABLE Control Room Emergency Filtration System (CREFS), CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under design basis accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem whole body or its equivalent to any part of the body for the duration of the accident. The program shall include the following elements:

- a. The definition of the CRE and the CRE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for (i) determining the unfiltered air leakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.
- d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the CREFS, operating at the flow rate required by the VFTP, at a Frequency of 18 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 18 month assessment of the CRE boundary.
- e. The quantitative limits on unfiltered air leakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air leakage measured by the testing described in paragraph c. The unfiltered air leakage limit for radiological challenges is the leakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air leakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

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(continued)

5.5 Programs and Manuals (continued)

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5.5.20 Control Room Envelope Habitability Program (continued)

- f. The provisions of SR 3.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.
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(continued)



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 154 TO FACILITY OPERATING LICENSE NPF-68

AND

AMENDMENT NO. 135 TO FACILITY OPERATING LICENSE NPF-81

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2

DOCKET NOS. 50-424 AND 50-425

1.0 INTRODUCTION

By application dated February 29, 2008 to the U.S. Nuclear Regulatory Commission (NRC) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML080601279), Southern Nuclear Operating Company, Inc. (SNC, the licensee), requested changes to the Appendix A Technical Specifications (TSs) and to the Appendix D Additional Conditions for the Vogtle Electric Generating Plant Units 1 and 2 (Vogtle1/2). The application was originally noticed, with the NRC staff proposed no significant hazards consideration determination as published in the *Federal Register* on March 25, 2008 (73 FR 15787). The proposed changes would modify the TS and Additional Conditions requirements related to control room emergency ventilation systems to establish more effective and appropriate actions to ensure the habitability of the control room envelope. The change is based on Technical Specification Task Force (TSTF) traveler, TSTF-448, Revision 3.

On August 8, 2006, the commercial nuclear electrical power generation industry owners group TSTF submitted a proposed change, TSTF-448, Revision 3, to the improved standard technical specifications (STS) (NUREGs 1430-1434) on behalf of the industry (TSTF-448, Revisions 0, 1, and 2 were prior draft iterations). TSTF-448, Revision 3, is a proposal to establish more effective and appropriate action, surveillance, and administrative STS requirements related to ensuring the habitability of the control room envelope (CRE).

In NRC Generic Letter 2003-01 (Reference 1), licensees were alerted to findings at facilities that existing TS surveillance requirements for the [Control Room Envelope Emergency Ventilation System (CREEVS)] may not be adequate. Specifically, the results of ASTM E741 (Reference 2) tracer gas tests to measure CRE unfiltered inleakage at facilities indicated that the differential pressure surveillance is not a reliable method for demonstrating CRE boundary operability. Licensees were requested to address existing TS as follows:



*Provide confirmation that your technical specifications verify the integrity [i.e., operability] of the CRE [boundary], and the assumed [unfiltered] leakage rates of potentially contaminated air. If you currently have a differential pressure surveillance requirement to demonstrate CRE [boundary] integrity, provide the basis for your conclusion that it remains adequate to demonstrate CRE integrity in light of the ASTM E741 testing results. If you conclude that your differential pressure surveillance requirement is no longer adequate, provide a schedule for: 1) revising the surveillance requirement in your technical specification to reference an acceptable surveillance methodology (e.g., ASTM E741), and 2) making any necessary modifications to your CRE [boundary] so that compliance with your new surveillance requirement can be demonstrated.*

*If your facility does not currently have a technical specification surveillance requirement for your CRE integrity, explain how and at what frequency you confirm your CRE integrity and why this is adequate to demonstrate CRE integrity.*

To promote standardization and to minimize the resources that would be needed to create and process plant-specific amendment applications in response to the concerns described in the generic letter, the industry and the NRC proposed revisions to CRE habitability system requirements contained in the STS, using the STS change traveler process. This effort culminated in Revision 3 to traveler TSTF-448, "Control Room Habitability," which the NRC staff approved on January 17, 2007.

The licensee proposed revising action and surveillance requirements in 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," TS 3.7.12, "Control Room Emergency Filtration System (CREFS) - Both Units Shutdown," and adding a new administrative controls program in TS Section 5.5, "Programs and Manuals." The purpose of the changes is to ensure that CRE boundary operability is maintained and verified through effective surveillance and programmatic requirements, and that appropriate remedial actions are taken in the event of an inoperable CRE boundary. These changes are consistent with the changes made by TSTF-448 to NUREG-1431, "Standard Technical Specifications, Westinghouse Plants."

Editorial and plant specific changes were incorporated into this safety evaluation resulting in minor deviations from the model safety evaluation text in TSTF-448, Revision 3. The differences between the proposed changes to Vogtle TS and changes made to STS by TSTF-448 arise from the fact that NUREG-1431 is modeled on a single unit site, whereas Vogtle is a two unit site with a shared CRE.

The licensee included in Enclosure 3 of its application dated February 29, 2008, "Clean Typed Pages for Proposed TS and TS Bases Changes," a Figure 5.5.6-1, "Schedule of Lift-Off Testing for Two Containments at a Site." The licensee proposed deletion of this figure from the TS in its application dated March 29, 2006, and that deletion was approved by NRC letters dated December 12, 2006 and January 11, 2007. Since this figure has previously been deleted from the TS, and its subject matter is not related to this amendment, the figure is not included with the TS pages that are enclosed with this license amendment.

## 2.0 REGULATORY EVALUATION

### 2.1 Control Room and Control Room Envelope

NRC Regulatory Guide 1.196, "Control Room Habitability at Light-water Nuclear Power Reactors," Revision 0, May 2003, (Reference 4) uses the term "control room envelope" in addition to the term "control room" and defines each term as follows:

*Control Room: The plant area, defined in the facility licensing basis, in which actions can be taken to operate the plant safely under normal conditions and to maintain the reactor in a safe condition during accident situations. It encompasses the instrumentation and controls necessary for a safe shutdown of the plant and typically includes the critical document reference file, computer room (if used as an integral part of the emergency response plan), shift supervisor's office, operator wash room and kitchen, and other critical areas to which frequent personnel access or continuous occupancy may be necessary in the event of an accident.*

*Control Room Envelope: The plant area, defined in the facility licensing basis, that in the event of an emergency, can be isolated from the plant areas and the environment external to the CRE. This area is served by an emergency ventilation system, with the intent of maintaining the habitability of the control room. This area encompasses the control room, and may encompass other non-critical areas to which frequent personnel access or continuous occupancy is not necessary in the event of an accident.*

NRC Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity At Nuclear Power Reactors," Revision 0, May 2003 (Reference 5), also contains these definitions, but uses the term CRE to mean both. This is because the protected environment provided for operators varies with the nuclear power facility. At some facilities this environment is limited to the control room; at others, it is the CRE. In this safety evaluation, consistent with the proposed changes to the STS, the CRE will be used to designate both.

### 2.2 Control Room Emergency Filtration System (CREFS)

The CREFS (the term used at Vogtle for the Control Room Envelope Emergency Ventilation System, CREEVS) provides a protected environment from which operators can control the units, during airborne challenges from radioactivity, hazardous chemicals, and fire byproducts, such as fire suppression agents and smoke, during both normal and accident conditions.

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

The CREFS consists of four redundant trains (two per Unit), each capable of maintaining the habitability of the CRE. A CREFS train is considered operable when the individual components necessary to limit CRE occupant exposure and ensure a CRE temperature of  $\leq 86^{\circ}\text{F}$  are operable. A CREFS train is considered operable when the associated:

- Fans are operable;
- High efficiency particulate air (HEPA) filters and charcoal adsorbers are not excessively restricting flow, and are capable of performing their filtration functions;
- Heater, demister, ductwork, valves, and dampers are operable, and air circulation can be maintained;
- Cooling coils and associated temperature control equipment are capable of performing their function; and
- CRE boundary is operable (the single boundary supports all trains).

The CRE boundary is considered operable when the measured unfiltered air leakage is less than or equal to the leakage value assumed by the licensing basis analyses of design basis accident consequences to CRE occupants.

### 2.3 Regulations Applicable to Control Room Habitability

In Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," General Design Criteria (GDC) 1, 2, 3, 4, 5, and 19 apply to CRE habitability. A summary of these GDCs follows.

GDC 1, "Quality Standards and Records," requires that structures, systems, and components (SSCs) important to safety be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions performed.

GDC 2, "Design Basis for Protection Against Natural Phenomena," requires that SSCs important to safety be designed to withstand the effects of earthquakes and other natural hazards.

GDC 3, "Fire Protection," requires SSCs important to safety be designed and located to minimize the effects of fires and explosions.

GDC 4, "Environmental and Dynamic Effects Design Bases," requires SSCs important to safety to be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents (LOCAs).

GDC 5, "Sharing of Structures, Systems, and Components," requires that SSCs important to safety not be shared among nuclear power units unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, the orderly shutdown and cooldown of the remaining units.

GDC 19, "Control Room," requires that a control room be provided from which actions can be taken to operate the nuclear reactor safely under normal conditions and to maintain the reactor in a safe condition under accident conditions, including a LOCA. Adequate radiation protection is to be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of specified values.

Prior to incorporation of TSTF-448, Revision 3, the STS requirements addressing CRE boundary operability resided only in the following CRE ventilation system specifications:

- NUREG-1431, TS 3.7.10, "Control Room Emergency Filtration System (CREFS);"

In these specifications, the surveillance requirement associated with demonstrating the operability of the CRE boundary requires verifying that one CREEVS train can maintain a positive pressure relative to the areas adjacent to the CRE during the pressurization mode of operation at a makeup flow rate. Facilities that pressurize the CRE during the emergency mode of operation of the CREEVS have similar surveillance requirements. Other facilities that do not pressurize the CRE have only a system flow rate criterion for the emergency mode of operation. Regardless, the results of ASTM E741 (Reference 2) tracer gas tests to measure CRE unfiltered leakage at facilities indicated that the differential pressure surveillance (or the alternative surveillance at non-pressurization facilities) is not a reliable method for demonstrating CRE boundary operability. That is, licensees were able to obtain differential pressure and flow measurements satisfying the SR limits even though unfiltered leakage was determined to exceed the value assumed in the safety analyses.

In addition to an inadequate surveillance requirement, the action requirements of these specifications were ambiguous regarding CRE boundary operability in the event CRE unfiltered leakage is found to exceed the analysis assumption. The ambiguity stemmed from the view that the CRE boundary may be considered operable but degraded in this condition, and that it would be deemed inoperable only if calculated radiological exposure limits for CRE occupants exceeded a licensing basis limit; e.g., as stated in GDC-19, even while crediting compensatory measures.

NRC Administrative Letter 98-10, "Dispositioning of Technical Specifications That Are Insufficient to Assure Plant Safety," (AL 98-10) states that "the discovery of an improper or inadequate TS value or required action is considered a degraded or nonconforming condition," which is defined in NRC Inspection Manual Chapter 9900; see latest guidance in RIS 2005-20 (Reference 3). "Imposing administrative controls in response to an improper or inadequate TS is considered an acceptable short-term corrective action. The NRC staff expects that, following the imposition of administrative controls, an amendment to the inadequate TS, with appropriate justification and schedule, will be submitted in a timely fashion."

Licensees that have found unfiltered leakage in excess of the limit assumed in the safety analyses and have yet to either reduce the leakage below the limit or establish a higher bounding limit through re-analysis, have implemented compensatory actions to ensure the safety of CRE occupants, pending final resolution of the condition, consistent with RIS 2005-20. However, based on GL 2003-01 and AL 98-10, the NRC staff expects each licensee to propose TS changes that include a surveillance to periodically measure CRE unfiltered leakage in order to satisfy 10 CFR 50.36(c)(3), which requires a facility's TS to include surveillance requirements, which it defines as "requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and *that limiting conditions for operation will be met.*" (Emphasis added.)

The NRC staff also expects facilities to propose unambiguous remedial actions, consistent with 10 CFR 50.36(d)(2), for the condition of not meeting the limiting condition for operation (LCO) due to an inoperable CRE boundary. The action requirements should specify a reasonable completion time to restore conformance to the LCO before requiring a facility to be shut down. This

completion time should be based on the benefits of implementing mitigating actions to ensure CRE occupant safety and sufficient time to resolve most problems anticipated with the CRE boundary, while minimizing the chance that operators in the CRE will need to use mitigating actions during accident conditions.

#### 2.4 Adoption of TSTF-448 Revision 3

Adoption of TSTF-448, Revision 3, will assure that a facility's TS LCO for the CREVS is met by demonstrating unfiltered leakage into the CRE is within limits (i.e., the operability of the CRE boundary). In support of this surveillance, which specifies a test interval (frequency) described in Regulatory Guide 1.197, TSTF-448 also adds TS administrative controls to assure the habitability of the CRE between performances of the ASTM E741 test. In addition, adoption of TSTF-448 will establish clearly stated and reasonable required actions in the event CRE unfiltered inleakage is found to exceed the analysis assumption.

The changes made by TSTF-448 to the STS requirements for the CREVS and the CRE boundary conform to 10 CFR 50.36(d)(2) and 10 CFR 50.36(d)(3). Their adoption will better assure that a plant's CRE will remain habitable during normal operation and design basis accident conditions. The staff has therefore concluded that these changes are acceptable for adoption by licensees.

### 3.0 TECHNICAL EVALUATION

The NRC staff reviewed the proposed changes against the corresponding changes made to the STS by TSTF-448, Revision 3, which the NRC staff has found to satisfy applicable regulatory requirements, as described above in Section 2.0. The emergency operational mode of the CREFS at Vogtle pressurizes the CRE to minimize unfiltered air inleakage. The proposed changes are consistent with this design.

#### 3.1 Proposed Changes

The proposed amendment would strengthen CRE habitability TS requirements by changing TS 3.7.10, "CREFS - Both Units Operating," TS 3.7.11, "CREFS - One Unit Operating," TS 3.7.12, "CREFS - Both Units Shutdown," and adding a new TS administrative controls program on CRE habitability. Accompanying the proposed TS changes are appropriate conforming technical changes to the TS Bases. The proposed revision to the Bases also includes editorial and administrative changes to reflect applicable changes to the corresponding STS Bases, which were made to improve clarity, conform with the latest information and references, correct factual errors, and achieve more consistency among the STS NUREGs. Except for plant specific differences, all of these changes are consistent with STS as revised by TSTF-448, Revision 3.

The NRC staff compared the proposed TS changes to the STS and the STS markups and evaluations in TSTF-448. The staff verified that differences from the STS were adequately justified on the basis of plant-specific design or retention of current licensing basis. The NRC staff also reviewed the proposed changes to the TS Bases for consistency with the STS Bases and the plant-specific design and licensing bases, although approval of the Bases is not a condition for accepting the proposed amendment. However, TS 5.5.14, "TS Bases Control Program," provides assurance that the licensee has established and will maintain the adequacy of the Bases. The proposed Bases for TS 3.7.10, refer to specific guidance in NEI 99-03, "Control Room Habitability

Assessment Guidance,” Revision 0, dated June 2001 (Reference 6), which the NRC staff has formally endorsed, with exceptions, through Regulatory Guide 1.196, “Control Room Habitability at Light-Water Nuclear Power Reactors,” dated May 2003 (Reference 4). The proposed Bases for TS 3.7.11, and 3.7.12 refer to the Bases for TS 3.7.10 and therefore refer to the same specific guidance in NEI 99-03.

### 3.2 Editorial Changes

The licensee proposed editorial changes to TS 3.7.10, 3.7.11, and 3.7.12 to establish standard terminology, such as “control room envelope (CRE)” in place of “control room,” except for the plant-specific name for the CREFS (plant specific name for CREEVS), and “radiological, chemical, and smoke hazards” in place of various phrases to describe the hazards that CRE occupants are protected from by the CREFS. These changes improve the usability and quality of the presentation of the TS, have no impact on safety, and therefore, are acceptable.

### 3.3 TS 3.7.10, CREFS - Both Units Operating

The licensee proposed to revise the action requirements of TS 3.7.10 to acknowledge that an inoperable CRE boundary, depending upon the location of the associated degradation, could cause just one CREFS train to be inoperable. This is accomplished by revising Condition D as follows:

- Condition D One or more CREFS trains inoperable due to inoperable CRE boundary.

This change clarifies how to apply the action requirements in the event just one CREFS train is unable to ensure CRE occupant safety within licensing basis limits because of an inoperable CRE boundary while both units are operating. It enhances the usability of Conditions A and D with a presentation that is more consistent with the intent of the existing requirements. This change is an administrative change because it neither reduces nor increases the existing action requirements, and, therefore, is acceptable.

The licensee proposed replacing existing Required Action D.1, “Restore control room boundary to OPERABLE status,” which has a 24-hour Completion Time, with new Required Actions D.1, D.2, and D.3. New Required Action D.1 requires the licensee to immediately initiate action to implement mitigating actions. New Required Action D.2 requires the licensee to verify, within 24 hours, that in the event of a DBA, CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupant exposure to chemical and smoke hazards will not exceed limits. New Required Action D.3 requires the licensee to restore CRE boundary to operable status within 90 days.

The 24-hour Completion Time of new Required Action D.2 is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions as directed by Required Action D.1. The 90-day Completion Time of new Required Action D.3 is reasonable based on the determination that the mitigating actions will ensure protection of CRE occupants within analyzed limits while limiting the probability that CRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. The 90-day Completion Time is a reasonable

time to diagnose, plan and possibly repair, and test most anticipated problems with the CRE boundary. Therefore, proposed Actions D.1, D.2, and D.3 are acceptable.

In the emergency mode of operation, the CREFS isolates unfiltered ventilation air supply intakes, filters the emergency ventilation air supply to the CRE, and pressurizes the CRE to minimize unfiltered air leakage past the CRE boundary. The licensee proposed to delete the CRE pressurization surveillance requirement (SR). This SR requires verifying that one CREFS train, operating in the emergency mode, can maintain a 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. The deletion of this SR is proposed because measurements of unfiltered air leakage into the CRE at numerous reactor facilities demonstrated that a basic assumption of this SR, an essentially leak-tight CRE boundary, was incorrect for most facilities. Hence, meeting this SR by achieving the required CRE pressure is not necessarily a conclusive indication of CRE boundary leak tightness, i.e., CRE boundary operability. Based on the adoption of TSTF-448, Revision 3, the licensee's proposal to delete SR 3.7.10.5 is acceptable.

The licensee proposed to replace the deleted CRE pressurization SR with a CRE leakage measurement SR. The proposed CRE leakage measurement SR states, "Perform required CRE unfiltered air leakage testing in accordance with the Control Room Envelope Habitability Program." The CRE Habitability Program TS, proposed TS 5.5.20, requires that the program include "Requirements for determining the unfiltered air leakage past the CRE boundary into the CRE in accordance with the testing methods and at the frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0 (Reference 5)." This guidance references ASTM E741 (Reference 2) as an acceptable method for ascertaining the unfiltered leakage into the CRE. The licensee has proposed to follow this method. Therefore, the proposed CRE leakage measurement SR is acceptable.

#### 3.4 TS 3.7.11, CREFS - One Unit Operating

The licensee proposed changes to TS 3.7.11 Condition F that are similar to the changes proposed for TS 3.7.10 Condition D. This change clarifies how to apply the action requirements in the event just one CREFS train is unable to ensure CRE occupant safety within licensing basis limits because of an inoperable CRE boundary while one unit is operating. This is accomplished by revising Condition F as follows:

- Condition F One or more CREFS trains inoperable due to inoperable CRE boundary.

The licensee proposed replacing existing Required Action F.1, "Restore control room boundary to OPERABLE status," which has a 24-hour Completion Time, with new Required Actions F.1, F.2, and F.3. New Required Action F.1 requires the licensee to immediately initiate action to implement mitigating actions. New Required Action F.2 requires the licensee to verify, within 24 hours, that in the event of a DBA, CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupant exposure to chemical and smoke hazards will not exceed limits. New Required Action F.3 requires the licensee to restore CRE boundary to operable status within 90 days.

The 24-hour Completion Time of new Required Action F.2 is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions as directed

by Required Action F.1. The 90-day Completion Time of new Required Action F.3 is reasonable based on the determination that the mitigating actions will ensure protection of CRE occupants within analyzed limits while limiting the probability that CRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. The 90-day Completion Time is a reasonable time to diagnose, plan and possibly repair, and test most anticipated problems with the CRE boundary. Therefore, proposed Actions F.1, F.2, and F.3 are acceptable.

### 3.5 TS 3.7.12, CREFS - Both Units Shutdown

The licensee proposed to modify TS 3.7.12 by adding a NOTE allowing the CRE boundary to be opened intermittently under administrative controls. As stated in the LCO Bases, this NOTE "only applies to openings in the CRE boundary that can be rapidly restored to the design condition, such as doors, hatches, floor plugs, and access panels. 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 should be proceduralized and consist of stationing a dedicated individual at the opening who is in continuous communication with operators in the CRE. This individual will have a method to rapidly close the opening and to restore the CRE boundary to a condition equivalent to the design condition when a need for CRE isolation is indicated." The allowance of this NOTE is acceptable because the administrative controls will ensure that the opening will be quickly sealed to maintain the validity of the licensing basis analyses of DBA consequences.

The licensee also proposed to add a new condition to Action E of TS 3.7.12 that states, "One or more CREFS trains inoperable due to an inoperable CRE boundary." The specified Required Action proposed for this condition is the same as for the existing conditions of Action E, which states "Four CREFS trains inoperable. "OR" The CREFS train required in the emergency mode by Required Actions of Conditions A, B, C, or D not capable of being powered by an OPERABLE emergency power source." Accordingly, the new condition is stated with the other conditions in Action E using the logical connector "OR." The practical result of this presentation in format is the same as specifying three separately numbered Actions, one for each condition. Its advantage is to make the TS Actions table easier to use by avoiding having an additional numbered row in the Actions table. The new condition in Action E is needed because proposed Actions D of TS 3.7.10 will only apply when both Units are operating in Modes 1, 2, 3, or 4 and proposed action F of TS 3.7.11 will only apply when only 1 Unit is operating in Modes 1, 2, 3, or 4. As such, this change will ensure that the Actions table continues to specify a condition for an inoperable CRE boundary during the times when Units 1 and 2 are both in either Mode 5 or 6 and during refueling of both Units. Therefore, this change is administrative and acceptable.

### 3.6 TS 5.5.20, CRE Habitability Program

The proposed administrative controls program TS is consistent with the model program TS in TSTF-448, Revision 3. In combination with SR 3.7.10.5, this program is intended to ensure the operability of the CRE boundary, which as part of an operable CREFS will ensure that CRE habitability is maintained such that CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under design basis accident (DBA)



A CRE Habitability Program TS acceptable to the NRC staff requires the program to contain the following elements:

*Definitions of CRE and CRE boundary.*

This element is intended to ensure that these definitions accurately describe the plant areas that are within the CRE, and also the interfaces that form the CRE boundary, and are consistent with the general definitions discussed in Section 2.1 of this safety evaluation. Establishing what is meant by the CRE and the CRE boundary will preclude ambiguity in the implementation of the program.

*Configuration control and preventive maintenance of the CRE boundary.*

This element is intended to ensure the CRE boundary is maintained in its design condition. Guidance for implementing this element is contained in Regulatory Guide 1.196 (Reference 4), which endorsed, with exceptions, NEI 99-03 (Reference 6). Maintaining the CRE boundary in its design condition provides assurance that its leak-tightness will not significantly degrade between CRE inleakage determinations.

*Assessment of CRE habitability at the frequencies stated in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0 (Reference 5), and measurement of unfiltered air leakage into the CRE in accordance with the testing methods and at the frequencies stated in Sections C.1 and C.2 of Regulatory Guide 1.197.*

This element is intended to ensure that the plant assesses CRE habitability consistent with Sections C.1 and C.2 of Regulatory Guide 1.197. Assessing CRE habitability at the NRC accepted frequencies provides assurance that significant degradation of the CRE boundary will not go undetected between CRE inleakage determinations. Determination of CRE inleakage using test methods acceptable to the NRC staff assures that test results are reliable for ascertaining CRE boundary operability. Determination of CRE inleakage at the NRC accepted frequencies provides assurance that significant degradation of the CRE boundary will not occur between CRE inleakage determinations.

*Measurement of CRE pressure with respect to all areas adjacent to the CRE boundary at designated locations for use in assessing the CRE boundary at a frequency of 18 months on a staggered test basis (with respect to the CREFS trains).*

This element is intended to ensure that CRE differential pressure is regularly measured to identify changes in pressure warranting evaluation of the condition of the CRE boundary. Obtaining and trending pressure data provides additional assurance that significant degradation of the CRE boundary will not go undetected between CRE inleakage determinations.

*Quantitative limits on unfiltered inleakage.*

This element is intended to establish the CRE inleakage limit as the CRE unfiltered infiltration rate assumed in the CRE occupant radiological consequence analyses of design basis accidents. Having an unambiguous criterion for the CRE boundary to be considered operable in order to meet LCO 3.7.10, 3.7.11, and 3.7.12 will ensure that

associated action requirements will be consistently applied in the event of CRE degradation resulting in inleakage exceeding the limit.

*Consistent with TSTF-448, Revision 3, the program states that the provisions of SR 3.0.2 are applicable to the program frequencies for performing the activities required by program paragraph number c, parts (i) and (ii) (assessment of CRE habitability and measurement of CRE inleakage), and paragraph number d (measurement of CRE differential pressure).*

This statement is needed to avoid confusion. SR 3.0.2 is applicable to the surveillance that references the testing in the CRE Habitability Program. However, SR 3.0.2 is not applicable to Administrative Controls unless specifically invoked. Providing this statement in the program eliminates any confusion regarding whether SR 3.0.2 is applicable, and is acceptable.

Consistent with TSTF-448, Revision 3, proposed TS 5.5.20 states that (1) a CRE Habitability Program shall be established and implemented, (2) the program shall include all of the NRC-staff required elements, as described above, and (3) the provisions of SR 3.0.2 shall apply to program frequencies. Therefore, TS 5.5.20, which is consistent with the model program TS approved by the NRC staff in TSTF-448, Revision 3, is acceptable.

### 3.7 Implementation of New Surveillance and Assessment Requirements by the Licensee

The licensee has proposed license conditions regarding the initial performance of the new surveillance and assessment requirements. The new license conditions adopted the conditions in section 2.3 of the model application published in the Federal Register on January 17, 2007 (72 FR 2022). Plant specific changes were made to these proposed license conditions. The proposed plant specific license conditions are consistent with the model application, and are acceptable.

### 3.8 Adoption of TSTF-448 Revision 3 by Vogtle

The changes made by TSTF-448 to the STS requirements for the CREVS and the CRE boundary conform to 10 CFR 50.36(d)(2) and 10 CFR 50.36(d)(3). The proposed plant specific adoption of the changes also conform to regulatory requirements of 10 CFR 50.36(d)(2) and 10 CFR 50.36(d)(3) and will better assure that Vogtle's CRE will remain habitable during normal operation and design basis accident conditions. The NRC staff has therefore concluded that these changes are acceptable for adoption by Vogtle.

## 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 a requirement with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. 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 (73 FR 15787). 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.

## 7.0 REFERENCES (Optional)

1. NRC Generic Letter 2003-01, "Control Room Habitability," dated June 12, 2003, (GL 2003-01).
2. ASTM E 741 - 00, "Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution," 2000, (ASTM E741).
3. NRC Regulatory Issue Summary 2005-20: Revision to Guidance Formerly Contained in NRC Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability," dated September 26, 2005 (RIS 2005-20).
4. Regulatory Guide 1.196, "Control Room Habitability at Light-Water Nuclear Power Reactors," Revision 0, dated May 2003.
5. Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003.
6. NEI 99-03, "Control Room Habitability Assessment Guidance," Revision 0, dated June 2001.
7. Southern Nuclear Operating Company, Inc., Vogtle Electric Generating Plant - Units 1 & 2, "Request for Technical Specification Amendment Application to Revise Technical Specifications Regarding Control Room Envelope Habitability in Accordance with TSTF-448, Revision 3 Using the Consolidated Line Item Improvement Process." February 29, 2008, ADAMS Accession No. ML080601279.

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**SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2, ISSUANCE OF AMENDMENTS REGARDING CONTROL ROOM ENVELOPE HABITABILITY, USING THE TECHNICAL SPECIFICATION TASK FORCE TRAVELER, TSTF-448, REVISION 3 (TAC NOS. MD8201 AND MD8202)**

Dear Mr. Tynan:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 154 to Facility Operating License NPF-68 and Amendment No. 135 to Facility Operating License NPF-81 for the Vogtle Electric Generating Plant, Units 1 and 2. The amendments consist of changes to the Appendix A Technical Specifications (TSs) and the Appendix D Additional Conditions in response to your application dated February 29, 2008.

The amendment modifies the TS requirements and Additional Conditions related to control room emergency ventilation systems to establish more effective and appropriate actions to ensure the habitability of the control room envelope. The change is based on Technical Specification Task Force (TSTF) traveler, TSTF-448, Revision 3.

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

Sincerely,

/RA/

Robert E. Martin, Senior Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-424 and 50-425

**Enclosures:**

1. Amendment No. 154 to NPF-68
2. Amendment No. 135 to NPF-81
3. Safety Evaluation

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\*By Memo dated:

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DATE	11/25/08	11/10/08	8/22/08*	10/07/08	11/25/08

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