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

September 30, 2008

Mr. J. A. Stall
Senior Vice President, Nuclear and
Chief Nuclear Officer
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

SUBJECT: ST. LUCIE PLANT, UNITS 1 AND 2 — ISSUANCE OF AMENDMENTS REGARDING THE INCORPORATION OF TECHNICAL SPECIFICATION TASK FORCE STANDARD TECHNICAL SPECIFICATION CHANGE TRAVELER, TSTF-448, REVISION 3, "CONTROL ROOM HABITABILITY" (TAC NOS. MD6174 AND MD6175)

Dear Mr. Stall:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment Nos. 205 and 153 to Renewed Facility Operating License Nos. DPR-67 and NPF-16 for the St. Lucie Plant, Units 1 and 2, in response to your application dated July 16, 2007, as supplemented by letters dated May 20, and August 26, 2008, for implementation of the Technical Specification Task Force (TSTF) Standard Technical Specification (TS) Change Traveler, TSTF-448, Revision 3, "Control Room Habitability."

The amendments establish more effective and appropriate action, surveillance, and administrative requirements related to ensuring the habitability of the control room envelope in accordance with the NRC-approved TSTF-448, Revision 3. This TS improvement was made available in the *Federal Register* (FR) by the NRC on January 17, 2007 (72 FR 2022).

A copy of the related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly FR notice.

Sincerely,

/Brenda Mozafari

Brenda L. Mozafari, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-335 and 50-389

Enclosures: 1. Amendment No. 205 to DPR-67
2. Amendment No. 153 to NPF-16
3. Safety Evaluation

cc w/enclosures: See next page

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UNITED STATES
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FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-335

ST. LUCIE PLANT UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 205
Renewed License No. DPR-67

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Florida Power & Light Company (the licensee), dated July 16, 2007, as supplemented by letters dated May 20 and August 26, 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 set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, 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;

   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, Renewed Facility Operating License No. DPR-67 is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and by amending paragraph 3.B to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 205 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented following implementation of the Alternative Source Term Amendment request with the completion of the installation and testing of the plant modifications described in the licensee's application described in letters dated July 16, 2007, February 14, March 18, April 14, June 2, July 11, and August 13, 2008.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas H. Boyce, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to Renewed Facility
Operating License No. DPR-67
and the Technical Specifications

Date of Issuance: September 30, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 205

RENEWED FACILITY OPERATING LICENSE NO. DPR-67

DOCKET NO. 50-335

Replace page 3 of Renewed Operating License DPR-67 with the attached page 3.

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

Remove Page	Insert Page
3/4 7-20	3/4 7-20
---	3/4 7-20a
3/4 7-23	3/4 7-23
6-15f	6-15f
	6-15g

Applicable provisions of the Act and of the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

A. Maximum Power Level

FPL is authorized to operate the facility at steady state reactor core power levels not in excess of 2700 megawatts (thermal).

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 205 are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

Appendix B, the Environmental Protection Plan (Non-Radiological), contains environmental conditions of the renewed license. If significant detrimental effects or evidence of irreversible damage are detected by the monitoring programs required by Appendix B of this license, FPL will provide the Commission with an analysis of the problem and plan of action to be taken subject to Commission approval to eliminate or significantly reduce the detrimental effects or damage.

C. Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on March 28, 2003, describes certain future activities to be completed before the period of extended operation. FPL shall complete these activities no later than March 1, 2016, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on March 28, 2003, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71 (e)(4), following issuance of this renewed license. Until that update is complete, FPL may make changes to the programs described in such supplement without prior Commission approval, provided that FPL evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

D. Sustained Core Uncovery Actions

Procedural guidance shall be in place to instruct operators to implement actions that are designed to mitigate a small-break loss-of-coolant accident prior to a calculated time of sustained core uncovery.

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7.1 The control room emergency ventilation system shall be OPERABLE with:

a. Two booster fans,

b. Two isolation valves in each outside air intake duct,

c. Two isolation valves in the toilet area air exhaust duct,

d. One filter train,

e. At least two air conditioning units, and

f. Two isolation valves in the kitchen area exhaust duct.

NOTE

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

APPLICABILITY: MODES 1, 2, 3, 4, 5 and 6 or during movement of irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3 and 4:

a. With one booster fan inoperable, restore the inoperable fan to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one isolation valve per air duct inoperable, operation may continue provided the other isolation valve in the same duct is maintained closed; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With the filter train inoperable for reasons other than an inoperable Control Room Envelope boundary, restore the filter train to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With only one air conditioning unit OPERABLE, restore at least two air conditioning units to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION: (continued)

MODES 1, 2, 3 and 4: (continued)

e. With the filter train inoperable due to an inoperable Control Room Envelope boundary:

1. Immediately initiate actions to implement mitigating actions, and

2. Within 24 hours, verify mitigating actions to ensure Control Room Envelope occupant exposures to radiological, chemical, and smoke hazards will not exceed limits, and

3. Restore Control Room Envelope boundary to OPERABLE status within 90 days.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 18 months by verifying that on a containment isolation signal the system automatically isolates the control room within 35 seconds and switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks.

e. By performing required Control Room Envelope unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.

l. Steam Generator (SG) Program (continued)

d. (continued)

2. Inspect 100% of the tubes at sequential periods of 144, 108, 72, and, thereafter, 60 effective full power months. The first sequential period shall be considered to begin after the first inservice inspection of the SGs. In addition, inspect 50% of the tubes by the refueling outage nearest the midpoint of the period and the remaining 50% by the refueling outages nearest the end of the period. No SG shall operate for more than 72 effective full power months or three refueling outages (whichever is less) without being inspected.

3. If crack indications are found in any SG tube, then the next inspection for each SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever is less). If definitive information, such as from examination of a pulled tube, diagnostic non-destructive testing, or engineering evaluation indicates that a crack-like indication is not associated with a crack(s), then the indication need not be treated as a crack.

e. Provisions for monitoring operational primary-to-secondary leakage.

m. 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 Ventilation System (CREVS), 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 total effective dose equivalent (TEDE) 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 inleakage 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 CREVS, operating at the flow rate required by the VFTP, at a Frequency of 36 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 36 month assessment of the CRE boundary.

m. Control Room Envelope Habitability Program (continued)

e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

f. The provisions of SR 4.0.2 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.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the NRC.

STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment of the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal or hydraulic performance of the plant.

UNITED STATES
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FLORIDA POWER & LIGHT COMPANY

ORLANDO UTILITIES COMMISSION OF

THE CITY OF ORLANDO, FLORIDA

AND

FLORIDA MUNICIPAL POWER AGENCY

DOCKET NO. 50-389

ST. LUCIE PLANT UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 153
Renewed License No. NPF-16

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Florida Power & Light Company, et al. (the licensee), dated July 16, 2007, as supplemented by letters dated May 20 and August 26, 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 set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, 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;

   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, Renewed Facility Operating License No. NPF-16 is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and by amending paragraph 3.B to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 153 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented following implementation of License Amendment No. 152 regarding the Alternate Source Term.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas H. Boyce, Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to Renewed Facility
Operating License No. NPF-16
and the Technical Specifications

Date of Issuance: September 30, 2008

neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

D. Pursuant to the Act and 10 CFR Parts 30, 40, and 70, FPL to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

E. Pursuant to the Act and 10 CFR Parts 30, 40, and 70, FPL to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

3. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission's regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Section 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; 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 below:

A. Maximum Power Level

FPL is authorized to operate the facility at steady state reactor core power levels not in excess of 2700 megawatts (thermal).

Commencing with the startup for Cycle 16 and until the Combustion Engineering Model 3410 Steam Generators are replaced, the maximum reactor core power shall not exceed 89 percent of 2700 megawatts (thermal) if:

a. The Reactor Coolant System Flow Rate is less than 335,000 gpm but greater than or equal to 300,000 gpm, or

b. The Reactor Coolant System Flow Rate is greater than or equal to 300,000 gpm AND the percentage of steam generator tubes plugged is greater than 30 percent (2520 tubes/SG) but less than or equal to 42 percent (3532 tubes/SG).

This restriction in maximum reactor core power is based on analyses provided by FPL in submittals dated October 21, 2005 and February 28, 2006, and approved by the NRC in Amendment No. 145, which limits the percent of steam generator tubes plugged to a maximum of 42 percent (3532 tubes) in either steam generator and limits the plugging asymmetry between steam generators to a maximum of 600 tubes.

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 153 are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (CREACS)

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent control room emergency air cleanup systems shall be OPERABLE with:

a. A filter train and its associated fan per system, and

b. At least one air conditioning unit per system, and

c. Two isolation valves in the kitchen area exhaust duct, and

d. Two isolation valves in the toilet area exhaust duct, and

e. Two isolation valves in each (North and South) air intake duct.

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

APPLICABILITY: MODES 1, 2, 3, 4, 5 and 6 or during movement of irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3, and 4:

a. With one control room emergency air cleanup system inoperable for reasons other than an inoperable Control Room Envelope boundary, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one or more control room emergency air cleanup systems inoperable due to an inoperable Control Room Envelope boundary:

1. Immediately initiate actions to implement mitigating actions, and

2. Within 24 hours, verify mitigating actions to ensure Control Room Envelope occupant exposures to radiological, chemical, and smoke hazards will not exceed limits, and

3. Restore Control Room Envelope boundary to OPERABLE status within 90 days.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

c. With an isolation valve in an air intake duct or air exhaust duct inoperable, operation may continue provided the other isolation valve in the same air intake or air exhaust duct is maintained closed; otherwise be in at least HOT STANDBY in the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With two control room emergency air cleanup systems inoperable for reasons other than an inoperable Control Room Envelope boundary, immediately enter LCO 3.0.3.

ACTION: (continued)

MODES 5 and 6 or during movement of irradiated fuel assemblies:

a. With one control room emergency air cleanup system inoperable for reasons other than an inoperable Control Room Envelope boundary, immediately initiate and maintain operation of the remaining OPERABLE control room emergency air cleanup system in the recirculation mode or immediately suspend movement of irradiated fuel assemblies.

b. With both control room emergency air cleanup systems inoperable, or with one or more CREACS systems inoperable due to an inoperable Control Room Envelope boundary, immediately suspend movement of irradiated fuel assemblies.

c. With an isolation valve in an air intake duct or air exhaust duct inoperable, maintain the other isolation valve in the same air intake or air exhaust duct closed or suspend movement of irradiated fuel assemblies.

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 18 months by:

1. Verifying that on a containment isolation test signal from Unit 2, the system automatically switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks.

2. Verifying that on a containment isolation test signal from Unit 1 the system automatically switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks.

e. By performing required Control Room Envelope unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.

l. Steam Generator (SG) Program (continued)

2. (continued)

e. Provisions for monitoring operational primary-to-secondary leakage.

f. Provisions for SG tube repair methods. Steam generator tube repair methods shall provide the means to reestablish the RCS pressure boundary integrity of SG tubes without removing the tube from service. For the purposes of these Specifications, tube plugging is not a repair. All acceptable tube repair methods are listed below.

1. Westinghouse Leak Limiting Alloy 800 sleeves as described in WCAP-15918-P Revision 2 (with range of conditions as revised in Appendix A of WCAP-16489-NP, Revision 0). Leak Limiting Alloy 800 Sleeves are applicable only to the original steam generators. Prior to installation of each sleeve, the location where the sleeve joints are to be established shall be inspected.

m. 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 Air Cleanup System (CREACS), 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 total effective dose equivalent (TEDE) 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 inleakage 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 CREACS, operating at the flow rate required by the VFTP, at a Frequency of 36 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 36 month assessment of the CRE boundary.

e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

f. The provisions of SR 4.0.2 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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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 205 AND 153

TO RENEWED FACILITY OPERATING LICENSE NOS. DPR-67 AND NPF-16

FLORIDA POWER AND LIGHT COMPANY, ET AL.

ST. LUCIE PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-335 AND 50-389

1.0 INTRODUCTION

By application dated July 16, 2007, as supplemented by letters dated May 20 and August 26, 2008, Florida Power and Light Company, et al. (the licensee), requested amendments to Renewed Facility Operating Licenses DPR-67 and NPF-16 for St. Lucie Units 1 and 2 (St. Lucie), respectively. The proposed amendments would allow St. Lucie to adopt Technical Specification Task Force (TSTF) Traveler TSTF-448, Revision 3, "Control Room Habitability."

The supplemental letters provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U. S. Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on August 28, 2007 (72 FR 49578).

On August 8, 2006, the commercial nuclear electrical power generation industry owners group TSTF submitted a proposed change, TSTF-448, Revision 3, "Control Room Habitability," to the improved standard technical specifications (STSs) (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, "Control Room Habitability," dated June 12, 2003, licensees were alerted to findings at various nuclear facilities that existing technical specification (TS) surveillance requirements (SRs) for the Control Room Emergency Ventilation System (CREVS) may not be adequate. Specifically, the results of the American Society for Testing and Materials (ASTM) E741-00, "Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution," tracer gas tests to measure CRE unfiltered inleakage 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 TSs verifies the operability of the CRE boundary, and the assumed unfiltered inleakage rates of potentially contaminated air. If you currently have a differential pressure SR 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 SR is no longer adequate, provide a schedule for: (1) revising the SR in your TSs 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 SR can be demonstrated. If your facility does not currently have a TS SR 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 (GL), the industry and the NRC proposed revisions to CRE habitability system requirements contained in the STSs, using the STS change traveler process. This effort culminated in Revision 3 to TSTF-448, which the NRC staff approved on January 17, 2007.

With consideration that the St. Lucie TSs are custom TSs and not STSs, the proposed changes are consistent with the traveler as incorporated into NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Specifically, the licensee proposed revising the actions and SRs in TS 3.7.7.1, "Control Room Emergency Ventilation System (CREVS)," for St. Lucie Unit 1, and TS 3.7.7, "Control Room Emergency Air Cleanup System (CREACS)," for St. Lucie Unit 2, as well as adding a new administrative controls program, TS 6.8.4.m, "Control Room Envelope Habitability Program," for both units The purpose of the changes are 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.

Some 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. These deviations are considered administrative in nature, in that they have no material impact on TSTF-448, Revision 3.

2.0 REGULATORY EVALUATION

2.1 Control Room and Control Room Envelope

NRC Regulatory Guide (RG) 1.196, "Control Room Habitability at Light-Water Nuclear Power Reactors," Revision 0, May 2003, 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 noncritical areas to which frequent personnel access or continuous occupancy is not necessary in the event of an accident.

NRC RG 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, 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 TSs, the CRE will be used to designate both.

2.2 Control Room Emergency Ventilation System (CREVS) Unit 1, and Control Room Emergency Air Cleanup System (CREACS) Unit 2

The CREVS and CREACS (the terms used at St. Lucie units1 and 2 respectively for the Control Room Envelope Emergency Ventilation System CREEVS) provides protected environments from which operators can control the unit, during airborne challenges from radioactivity, hazardous chemicals, and fire byproducts, such as fire-suppression agents and smoke, during both normal and accident conditions.

For Unit 1, the CREVS is designed to limit control room doses due to airborne activity to within General Design Criterion (GDC) 19 limits, maintain the ambient temperature required for personnel comfort during normal conditions, permit personnel occupancy and proper functioning of instrumentation and control during all normal and loss-of-coolant accident (LOCA) conditions assuming a single active failure, withstand design basis earthquake loads without loss of function, and permit personnel occupancy during a toxic gas release accident.

In order for the CREVS to be considered OPERABLE, the CRE boundary must be maintained such that the CRE occupant dose from a large radioactive release does not exceed the calculated dose in the licensing basis consequence analyses for design-basis accident (DBA), and that CRE occupants are protected from hazardous chemicals and smoke.

By letter dated August 26, 2008, the licensee indicated that, for Unit 2 the CREACS consists of a combination of two systems, the Control Room Air Conditioning System (CRACS) and the Control Room Emergency Cleanup System (CRECS). And, that the two systems are required to assure control room habitability. The design bases for the CRACS and CRECS are as follows:

a) Control the environment in the control room envelope, for the comfort of control room personnel and to assure the operability of control components during normal plant operation, anticipated operational occurrences or abnormal occurrences.
b) Assure that no single active failure coincident with a loss of offsite power can result in loss of functional performance.
c) Maintain the control room envelope at an average positive pressure of 1/8 inch water guage above that of the surroundings during normal plant operation and following a loss-of-coolant accident (LOCA).
d) Provide means to limit the introduction of airborne radioactivity, smoke, toxic gases or steam to the control room envelope.
e) Provide air cleaning for the control room envelope atmosphere so that airborne radiological doses, experienced by control personnel following a design basis accident (DBA) do not exceed limits imposed by General Design Criterion 19.
f) Assure that makeup air brought in during an event that has resulted in control room isolation does not bypass the air cleaning process before it mixes with the control room envelope air.
g) Assure that essential portions of the systems and control components are protected against missiles (internal and external) and floods, and are designed to remain functional subsequent to a Safe Shutdown Earthquake.
h) Provide accessibility for adjustments, periodic inspections and testing of the system components to assure continuous functional reliability.

In order for the CREACS to be considered OPERABLE, the CRE boundary must be maintained such that the CRE occupant dose from a large radioactive release does not exceed the calculated dose in the licensing basis consequence analyses for DBAs, and the CRE occupants are protected from hazardous chemicals and smoke.

2.3 Regulations applicable to Control Room Habitability

In Appendix A, "General Design Criteria for Nuclear Power Plants," 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," GDC 1, 2, 3, 4, 5, and 19 apply to CRE habitability. A summary of these GDCs follows. Facilities not licensed under the GDC from 10 CFR Part 50 are licensed under similar plant-specific design criteria, as described in the facility's licensing basis documents.

For St. Lucie Unit 1, section 3.1 of the Updated Final Safety Analysis Report (UFSAR) "Conformance with the general design criteria," states that the Construction Permit for the Hutchinson Island (St. Lucie Unit 1) Plant was issued on July1, 1970, and preceded the publication of the (Atomic Energy Commission) "General Design Criteria for Nuclear Power Plants" (10 CFR Part 50, Appendix A, February 20, 1971).

For St. Lucie unit 2, section 3.1 of the USFAR "Conformance with NRC General Design Criteria" states that "The following sections discuss conformance with the NRC 'General Design Criteria for Nuclear Power Plants' as specified in Appendix A to 10 CFR Part 50 effective May 21, 1971, and subsequently amended July 7, 1971, and February 12, 1976. Based on the content herein, the applicant concludes that St. Lucie Unit 2 fully satisfies and is in compliance with the General Design Criteria."

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 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-1430, TS 3.7.10, "Control Room Emergency Ventilation System (CREVS)";
- NUREG-1431, TS 3.7.10, "Control Room Emergency Filtration System (CREFS)";
- NUREG-1432, TS 3.7.11, "Control Room Emergency Air Cleanup System (CREACS)";
- NUREG-1433, TS 3.7.4, "Main Control Room Environmental Control (MCREC) System" and
- NUREG-1434, TS 3.7.3, "Control Room Fresh Air (CRFA) System."

In these specifications, the SR associated with demonstrating the operability of the CRE boundary requires verifying that one (CREVS in Unit 1, CREACS in Unit 2) 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 (CREVS in Unit 1, CREACS in Unit 2) have similar SRs. 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 inleakage at facilities indicated that the differential pressure surveillance (or the alternative surveillance at nonpressurization 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 inleakage was determined to exceed the value assumed in the safety analyses.

In addition to an inadequate SR, the action requirements of these specifications were ambiguous regarding CRE boundary operability in the event CRE unfiltered inleakage 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" Administrative Letter (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 Regulatory Issue Summary (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 inleakage in excess of the limit assumed in the safety analyses and have yet to either reduce the inleakage 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 inleakage in order to satisfy 10 CFR 50.36(d)(3), which requires a facility's TSs 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, St. Lucie Units 1 and 2

Adoption of TSTF-448, Revision 3, will assure that the facility's TS LCO (CREVS in Unit 1, CREACS in Unit 2) 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 (CREVS in Unit 1, CREACS in Unit 2) 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 St. Lucie Units 1 and 2 CREs will remain habitable during normal operation and DBA conditions. These changes are, therefore, acceptable from a regulatory standpoint.

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 CREVS in Unit 1, and the CREACS in Unit 2 at St. Lucie pressurizes the CRE to minimize unfiltered air inleakage. The proposed changes are consistent with the respective designs.

3.1 Proposed Changes

The proposed amendment would strengthen CRE habitability TS requirements by changing St. Lucie Unit 1 TS 3.7.7.1, "CREVS" and Unit 2 TS 3.7.7, "CREACS," as well as adding a new TS administrative controls program on CRE habitability. Accompanying the proposed TS changes are appropriate conforming technical changes to the TS Bases, as well as the addition of a license condition regarding initial performance of new surveillance and assessment requirements. The changes to the TS Bases were not reviewed by the NRC staff and their issuance should not be construed to imply approval of the TS Bases. Except for plant-specific differences, all of these changes are consistent with TSTF-448, Revision 3.

The NRC staff compared the proposed TS changes, with due consideration that St. Lucie possesses custom TSs to the STSs, and the STS markups and evaluations in TSTF-448, Revision 3. The staff verified that differences from the STSs were adequately justified on the basis of plant-specific design or retention of current licensing basis. St. Lucie TS 6.8.4.j, "TS Bases Control Program," is the appropriate control mechanism for updating and maintaining the adequacy of the TS Bases. The proposed Bases for TS 3.7.7.1 for Unit 1 and 3.7.7 for Unit 2 refer to specific guidance in NEI 99-03, "Control Room Habitability Assessment Guidance," Revision 0, dated June 2001 which the NRC staff has formally endorsed, with exceptions, through Regulatory Guide 1.196, A Control Room Habitability at Light-Water Nuclear Power Reactors, dated May 2003.

3.2 Editorial Changes

The licensee proposed editorial changes to TS 3.7.7.1 CREVS for Unit 1 and TS 3.7.7 CREACS for Unit 2 to establish standard terminology, such as "control room envelope (CRE)" in place of "control room," except for the plant-specific name for the CREEVS (CREVS Unit 1 and CREACS Unit 2) and "radiological, chemical, and smoke hazards (or challenges)" in place of various phrases to describe the hazards that CRE occupants are protected from by the CREVS for Unit 1 and CREACS for Unit 2. These changes improve the usability and quality of the presentation of the TS, have no impact on safety, and therefore, are acceptable.

3.3 TSs 3.7.7.1 CREVS Unit 1, 3.7.7 CREACS Unit 2

For Unit 1 in MODES 1, 2, 3, and 4 the licensee proposed to establish new action requirements in TS 3.7.7.1 "CONTROL ROOM EMERGENCY VENTILATION SYSTEM" (CREVS) for an

inoperable CRE boundary. Currently, if the filter train is determined to be inoperable due to an inoperable CRE boundary, existing Action c. would apply and require restoring the filter train (and the CRE boundary) to operable status in 24 hours. These existing Actions are more restrictive than would be appropriate in situations for which CRE occupant implementation of compensatory measures or mitigating actions would temporarily afford adequate CRE occupant protection from postulated airborne hazards. To account for such situations, the licensee proposed to revise the action requirements to add a new Action e. to state, "With the filter train inoperable due to an inoperable Control Room Envelope boundary: e.1 Immediately initiate actions to implement mitigating actions, and e.2 Within 24 hours, verify mitigating actions to ensure Control Room Envelope occupant exposures to radiological, chemical, and smoke hazards will not exceed limits, and e.3 Restore Control Room Envelope boundary to OPERABLE status within 90 days. With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours." New Action e.3 would allow 90 days to restore the CRE boundary (and consequently, the affected filter train) to operable status, provided that mitigating actions are immediately implemented and within 24 hours are verified to ensure, 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 occupants are protected from hazardous chemicals and smoke.

The 24-hour Completion Time of new Action e.2 is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90-day Completion Time 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 of new Action e.3 is a reasonable time to diagnose, plan and possibly repair, and test most anticipated problems with the CRE boundary. Therefore, proposed Actions e., e.1, e.2, and e.3 are acceptable.

To distinguish new Action e. from the existing condition with the filter train inoperable, Action c. is revised to state, "With the filter train inoperable for reasons other than an inoperable Control Room Envelope boundary, restore the filter train to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours" The change to existing Action c. is less restrictive because this Conditions will no longer apply in the event the filter train is inoperable due to an inoperable CRE boundary during unit operation in Mode 1, 2, 3, or 4. This is acceptable because the new Action e. establishes adequate remedial measures in this condition.

For Unit 2 in MODES 1, 2, 3 and 4 the licensee proposed to establish new action requirements in TS 3.7.7 "CONTROL ROOM EMERGENCY AIR CLEANUP SYSTEM (CREACS)" for an inoperable CRE boundary. Currently, if one CREACS is determined to be inoperable due to an inoperable CRE boundary, existing Action a. would apply and require restoring the system (and the CRE boundary) to operable status in 7 days. If both CREACS are determined to be inoperable due to an inoperable CRE boundary, existing Action b. applies and specifies restoring at least one system to OPERABLE status within 24 hours. These existing Actions are more restrictive than would be appropriate in situations for which CRE occupant implementation of compensatory measures or mitigating actions would temporarily afford adequate CRE occupant protection from postulated airborne hazards. To account for such situations, the licensee proposed to revise the Condition for Action b. to state, "With one or more control room

emergency air cleanup systems inoperable due to an inoperable Control Room Envelope boundary: b.1 "Immediately initiate actions to implement mitigating actions, and b.2 Within 24 hours, verify mitigating actions to ensure Control Room Envelope occupant exposures to radiological, chemical, and smoke hazards will not exceed limits, and b.3 Restore control Room Envelope boundary to OPERABLE status within 90 days." New Action b.3 would allow 90 days to restore the CRE boundary (and consequently, the affected CREACS) to operable status, provided that mitigating actions are immediately implemented and within 24 hours are verified to ensure, 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 occupants are protected from hazardous chemicals and smoke.

The 24-hour Completion Time of new Action b.2 is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90-day Completion Time 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 of new Action b.3 is a reasonable time to diagnose, plan and possibly repair, and test most anticipated problems with the CRE boundary. Therefore, proposed Actions b., b.1, b.2, and b.3 are acceptable

To distinguish new Action a. from the existing Action a. for one CREACS inoperable, the Condition is revised to state, "With one control room emergency air cleanup system inoperable for reasons other than an inoperable Control Room Envelope boundary, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within 6 hours and COLD SHUTDOWN within the following 30 hours." The changes to existing Actions a. and b. are less restrictive because these Actions will no longer apply in the event one or two CREACS are inoperable due to an inoperable CRE boundary during unit operation in Mode 1, 2, 3 or 4. This is acceptable because the new Action b. establishes adequate remedial measures in this condition. New Action d. is added to address the Condition of two CREACS inoperable for reasons other than and inoperable CRE boundary, it states, "With two control room emergency air cleanup systems inoperable for reasons other than an inoperable Control Room Envelope boundary, immediately enter LCO 3.0.3."

The licensee proposed revising the existing Actions a. and b. for MODES 5 and 6 to state for condition a. that, "With one control room emergency air cleanup system inoperable for reasons other than an inoperable Control Room Envelope boundary, immediately initiate and maintain operation of the remaining OPERABLE control room emergency air cleanup system in the recirculation mode or immediately suspend movement of irradiated fuel assemblies." Action b. will be revised to state for condition b. that, "With both control room emergency air cleanup systems inoperable, or with one or more CREACS inoperable due to an inoperable Control Room Envelope boundary, immediately suspend movement of irradiated fuel assemblies."

With only one CREACS operable in MODES 5 and 6, Action a. specifies an alternative to immediately suspending fuel movement; it requires immediately placing the operable CREACS in its emergency operating alignment, or mode, to minimize the chance the system will fail to properly switch to this mode if called upon in response to a fuel handling accident, or other airborne hazards challenge. With the existence of condition b., immediately suspending movement of irradiated fuel assemblies will ensures that a fuel handling accident cannot occur

while the unit is in this condition. Therefore the proposed revision to Actions a. and b. is acceptable.

The licensee also proposed to modify the CREVS for Unit 1 and CREACS for Unit 2 LCO 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.

In the emergency radiation state of operation, the CREVS for Unit 1 and CREACS for Unit 2 isolates unfiltered ventilation air supply intakes, filters the emergency ventilation air supply to the CRE, and pressurizes the CRE to minimize unfiltered air inleakage past the CRE boundary. The licensee proposed to delete the CRE pressurization surveillance requirement (SR). This SR requires verifying that the CREVS for Unit 1 and the CREACS for Unit 2, operating in the emergency radiation state, can maintain a positive pressure of 0.125 inches water gauge, relative to the outside atmosphere during the pressurization mode of operation at a makeup flow rate of 450 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). In its response to GL 2003-01, dated December 9, 2003, the licensee reported that it had determined that the St. Lucie Units 1 and 2 CRE pressurization surveillance, SR 4.7.7.1.d.2 Unit 1 and 4.7.7.d.2 Unit 2, was inadequate to demonstrate the operability of the CRE boundary, and proposed to replace it with an inleakage measurement SR and a CRE Habitability Program in TS Section 6.8.4.m in accordance with the approved version of TSTF-448. Based on the adoption of TSTF-448, Revision 3, the licensee's proposal to delete SR 4.7.7.1.d.2 for unit 1 and 4.7.7.d.2 for Unit 2 is acceptable. Consequently, for unit 1, SR 4.7.7.1.d is revised to state "At least once per 18 months by verifying that on a containment isolation signal the system automatically isolates the control room within 35 seconds and switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks." For Unit 2, SR 4.7.7.d.3 is renumbered to become 4.7.7.d.2.

For Units 1 and 2, the proposed CRE inleakage measurement SR 4.7.7.1.e for Unit 1 and 4.7.7.e for Unit 2 states, "By performing required Control Room Envelope unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program." The CRE Habitability Program TS, proposed TS 6.8.4.m, requires that the program include "Requirements for determining the unfiltered air inleakage 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 inleakage measurement SR is acceptable.

3.4 TS 6.8.4.m units 1 and 2, 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 4.7.7.1.e Unit 1 and 4.7.7.e Unit 2, this program is intended to ensure the operability of the CRE boundary, which as part of an operable CREVS unit 1 and CREACS unit 2, 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 DBA conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent for the duration of the accident.

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 RG 1.196 (Reference 4), which endorsed, with exceptions, Nuclear Energy Institute guidance 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. 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 36 months on a staggered test basis (with respect to the CREVS Unit 1 and CREACS Unit 2). 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 3.7.7.1 unit 1 and 3.7.7 unit 2, 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 4.0.2 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 d (measurement of CRE differential pressure). This

statement is needed to avoid confusion. SR 4.0.2 is applicable to the surveillance that references the testing in the CRE Habitability Program. However, SR 4.0.2 is not applicable to Administrative Controls unless specifically invoked. Providing this statement in the program eliminates any confusion regarding whether SR 4.0.2 is applicable, and is acceptable.

Consistent with TSTF-448, Revision 3, proposed TS 6.8.4.m states that (1) a CRE Habitability Program shall be established and implemented, (2) the program shall include all of the NRCstaff-required elements, as described above, and (3) the provisions of SR 4.0.2 shall apply to program frequencies. Therefore, TS 6.8.4.m, which is consistent with the model program TS approved by the NRC staff in TSTF-448, Revision 3, is acceptable.

3.5 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.

4.0 STATE CONSULTATION

Based upon a letter dated May 2, 2003, from Michael N. Stephens of the Florida Department of Health, Bureau of Radiation Control, to Brenda L. Mozafari, Senior Project Manager, U.S. Nuclear Regulatory Commission, the State of Florida does not desire notification of issuance of license amendments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes SRs. The NRC staff has determined that the amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on the finding as published in the *Federal Register* on August 28, 2007 (72 FR 49578). Accordingly, the amendment meets 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 amendment.

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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Harold Walker

Date: September 30, 2008