

July 30, 2008

Mr. Dale E. Young, Vice President
Crystal River Nuclear Plant (NA1B)
ATTN: Supervisor, Licensing & Regulatory Programs
15760 W. Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 - ISSUANCE OF AMENDMENT REGARDING
CONTROL ROOM ENVELOPE HABITABILITY IN ACCORDANCE WITH
TSTF-448 (TAC NO. MD6044)

Dear Mr. Young:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 230 to Facility Operating License No. DPR-72 for Crystal River Unit 3 in response to your letter dated July 12, 2007, as supplemented by letters dated June 19 and July 29, 2008. The amendment revises the technical specifications (TS) to adopt TSTF-448, Revision 3, "Control Room Habitability." The amendment also adds a license condition regarding initial performance of new surveillance and assessment requirements. This TS improvement was made available by the Commission on January 17, 2007 (72 FR 2022) as part of the consolidated line item improvement process.

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

Sincerely,

/RA/

Farideh E. Saba, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosures:

1. Amendment No. 230 to DPR-72
2. Safety Evaluation

cc w/enclosures: See next page

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OFFICIAL RECORD

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FLORIDA POWER CORPORATION
CITY OF ALACHUA
CITY OF BUSHNELL
CITY OF GAINESVILLE
CITY OF KISSIMMEE
CITY OF LEESBURG
CITY OF NEW SMYRNA BEACH AND UTILITIES COMMISSION
CITY OF NEW SMYRNA BEACH
CITY OF OCALA
ORLANDO UTILITIES COMMISSION AND CITY OF ORLANDO
SEMINOLE ELECTRIC COOPERATIVE, INC.
DOCKET NO. 50-302
CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 230
License No. DPR-72

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power Corporation, et al. (the licensees), dated July 12, 2007, as supplemented by letters dated June 19 and July 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 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;
 - 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 amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-72 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 230 are hereby incorporated in the license. Florida Power Corporation shall operate the facility in accordance with the Technical Specifications.

3. In addition, Section 2.C.(15) will be added to Facility Operating License No. DPR 72 to read as follows:

- 2.C.(15) Upon implementation of Amendment No. 230 adopting TSTF-448, Revision 3, the determination of control complex habitability envelope (CCHE) unfiltered air leakage as required by Surveillance Requirement (SR) 3.7.12.4, in accordance with ITS 5.6.2.21.3(i) and the assessment of CCHE habitability as required by ITS 5.6.2.21.3(ii), shall be considered met. Following implementation:
 - (a) The first performance of SR 3.7.12.4, in accordance with Specification 5.6.2.21.3(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from May 18, 2007, the date of the most recent successful inleakage test.
 - (b) The first performance of the periodic assessment of CCHE habitability, ITS 5.6.2.21.3(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from May 18, 2007, the date of the most recent successful inleakage test.
 - (c) The Control Complex Habitability Envelope Integrity Program will be used to verify the integrity of the Control Complex boundary. Conditions that are identified to be adverse shall be trended and used as part of the 24 month assessment of the CCHE boundary. This assessment will be performed within 60 days of implementation of Amendment 230 .

4. This license amendment is effective as of its date of issuance and shall be implemented within 180 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/EBrown for/

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

Attachment:
Changes to the Operating License
and Technical Specifications

Date of Issuance: July 30, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 230

FACILITY OPERATING LICENSE NO. DPR-72

DOCKET NO. 50-302

Replace the following pages of Facility Operating License DPR-72 with the attached revised pages.

Remove

4
5c

Insert

4
5c
5d

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

Remove

3.7-24
3.7-25
5.0-23B

Insert

3.7-24
3.7-25
5.0-23B

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 230 TO FACILITY OPERATING LICENSE NO. DPR-72
FLORIDA POWER CORPORATION, ET AL.
CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT
DOCKET NO. 50-302

1.0 INTRODUCTION

By application to the U.S. Nuclear Regulatory Commission (NRC, Commission), dated July 12, 2007, Florida Power Corporation (FPC, the licensee) requested changes to the Technical Specifications (TS) for Crystal River Unit 3. The supplements dated June 19 and July 29, 2008, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on May 20, 2008 (73 FR 29163).

On August 8, 2006, the commercial nuclear electrical power generation industry owners group Technical Specifications Task Force (TSTF) submitted a proposed change, TSTF-448, Revision 3, "Control Room Habitability," to the improved standard technical specifications (STS), (NUREGs [NRC technical report designation] 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). Control complex habitability envelope (CCHE) is the term used at Crystal River Unit 3 for the CRE.

In NRC Generic Letter (GL) 2003-01 (Reference 1), "Control Room Habitability," dated June 12, 2003, licensees were alerted to findings at facilities that existing TS surveillance requirements (SRs) for the Control Room Emergency Ventilation System (CREVS) may not be adequate. Specifically, the results of American Society for Testing and Materials (ASTM) E741 (Reference 2), "Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution," 2000, "Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution," 2000, 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] inleakage 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 GL 2003 01, 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, which the NRC approved on January 17, 2007.

Consistent with the traveler as incorporated into NUREG 1430, "Standard Technical Specifications Babcock and Wilcox Plants," the licensee proposed revising action and SRs in TS 3.7.12, "Control Room Emergency Ventilation System (CREVS)," and adding a new administrative controls program, TS 5.6.2.21, "Control Complex Habitability Envelope Integrity Program." 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.

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.

2.0 REGULATORY EVALUATION

2.1 Control Room and Control Room Envelope

NRC Regulatory Guide (RG) 1.196 (Reference 3), "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 non critical areas to which frequent personnel access or continuous occupancy is not necessary in the event of an accident.

NRC RG 1.197 (Reference 4), "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 STS, the CRE will be used to designate both. For consistency, facilities should use the term CRE with an appropriate facility-specific definition derived from the above CRE definition.

2.2 Control Room Emergency Ventilation System (CREVS)

The CREVS provides a protected environment from which operators can control the unit during airborne challenges from radioactivity, hazardous chemicals, and fire byproducts, such as fire suppression agents and smoke, under both normal and accident conditions.

The CREVS is designed to maintain a habitable environment in the CRE for 30 days of continuous occupancy after a design-basis accident (DBA) without exceeding a 5 roentgen equivalent man (rem) total effective dose equivalent (TEDE).

The CREVS consists of two redundant trains, each capable of maintaining the habitability of the CRE (control complex habitability envelope (CCHE) is the term used at Crystal River Unit 3 for CRE). The CREVS is considered operable when the individual components necessary to limit operator exposure are operable in both trains. A CREVS train is considered operable when the associated:

- a. A Control Complex Emergency Duty Supply Fan is operable
- b. A Control Complex Return Fan is operable
- c. High efficiency particulate air (HEPA) filters and charcoal adsorbers are not excessively restricting flow, and are capable of performing their filtration functions;
- d. Ductwork, and dampers are operable, and air circulation can be maintained; and
- e. CCHE boundary is operable (the single boundary supports both trains).
- f. The CCHE boundary is considered operable when the measured unfiltered air inleakage is less than or equal to the inleakage value assumed by the licensing basis analyses of DBA 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. Crystal River Unit 3 was designed and constructed to meet the intent of the originally proposed GDC for Nuclear Power Plants issued by the Atomic Energy Agency. A summary of the current GDCs follows. Significant deviations between the current GDC and the criteria used for Crystal River Unit 3 are noted.

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. Not applicable to Crystal River Unit 3 since it is a single unit facility.

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. CR-3 has evaluated control room habitability in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix A, General Design Criteria 19, as revised in 1999 to incorporate the Alternative Source Term (10 CFR 50.67). Post-accident operator mission dose has been evaluated in accordance with NUREG-0737, II.B.

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 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 CREVS 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 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 SR, 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 (AL) 98 10, "Dispositioning of Technical Specifications That Are Insufficient to Assure Plant Safety," 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 NRC Regulatory Issue Summary (RIS) 2005-20 (Reference 5): Revision to Guidance Formerly Contained in NRC GL 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, "Imposing administrative controls in response to 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(d)(3), which requires a facility's TS to include SRs, 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."

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 (CT) to restore conformance to the LCO before requiring a facility to be shut down. This CT 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, by Crystal River Unit 3

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

The changes made by TSTF 448 to the STS requirements for the CREVS and the CCHE boundary conform to 10 CFR 50.36(d)(2) and 10 CFR 50.36(d)(3). Their adoption will better assure that Crystal River's CCHE 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 licensee's 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 at Crystal River Unit 3 isolates, but does not pressurize the CRE to minimize unfiltered air inleakage. The proposed changes are consistent with this design.

3.1 Proposed Changes

The proposed amendment would strengthen CCHE habitability TS requirements by changing TS 3.7.12, CREVS and adding a new TS administrative controls program on CCHE 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 to 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. The proposed Bases for TS 3.7.12 refer to specific guidance in NEI 99-03 (Reference 6), "Control Room Habitability Assessment Guidance," Revision 0, dated June 2001, which the NRC staff has formally endorsed, with exceptions, through RG 1.196.

3.2 Editorial Changes

The licensee proposed editorial changes to TS 3.7.12 to establish standard terminology, such as "control complex habitability envelope (CCHE)" in place of "control room," except for the plant-specific name for the CREVS (plant-specific name for CREEVS), and "radiological,

chemical, and smoke hazards (or challenges)” in place of various phrases to describe the hazards that CCHE occupants are protected from by the CREVS. 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 3.7.12, Control Room Envelope Ventilation System

The licensee proposed to revise the action requirements of TS 3.7.12, “CREVS,” to acknowledge that an inoperable CCHE boundary, depending upon the location of the associated degradation, could cause just one, instead of both CREVS trains to be inoperable. This is accomplished by revising Condition A to exclude Condition B, and revising Condition B to address one or more CREVS trains, as follows:

- Condition A One CREVS train inoperable for reasons other than Condition B.
- Condition B One or more CREVS trains inoperable due to inoperable CCHE boundary.

This change clarifies how to apply the action requirements in the event just one CREVS train is unable to ensure CCHE occupant safety within licensing basis limits because of an inoperable CCHE boundary. It enhances the usability of Conditions A and B 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 to replace existing Required Action B.1, “Restore control room boundary to OPERABLE status,” which has a 24 hour CT, with Required Action B.1, to immediately initiate action to implement mitigating actions; Required Action B.2, 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 CCHE occupants are protected from hazardous chemicals and smoke; and Required Action B.3, to restore CCHE boundary to operable status within 90 days.

The 24 hour CT of new Required Action B.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 B.1. The 90-day CT of new Required Action B.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 CT is a reasonable time to diagnose, plan and possibly repair, and test most anticipated problems with the CRE boundary. Therefore, proposed Actions B.1, B.2, and B.3 are acceptable.

On September 17, 2001, Amendment No. 199 was issued to FPC for Crystal River Unit 3 regarding alternative source term and the control room ventilation system. The amendment adopted full implementation of the alternative source term and conformed to the intent of TSTF Traveler 287. With Amendment No. 199, improved TS (ITS) 3.7.12 was revised to remove applicability of the ITS during movement of irradiated fuel assemblies. This revision included limiting the applicability of ITS 3.7.12 to Modes 1, 2, 3 and 4, deleting ITS 3.7.12 Conditions D

and F, and deleting references to Modes 1, 2, 3 and 4 in conditions C and E. This was acceptable based on the following: FPC did not credit control room isolation or the use of the CREVS recirculation filters in the performance of the fuel handling accident analyses. FPC showed the control room dose criterion of 10 CFR 50.67(b)(2)(iii) and that of GDC-19 will still be met without this credit.

In the emergency radiation mode of operation, the CREVS isolates unfiltered ventilation air supply intakes, and recirculates and filters the emergency ventilation air supply to the CCHE. The licensee proposed to revise the wording of SR 3.7.12.4 from "Verify the control complex habitability envelope integrity in accordance with ITS 5.6.2.21," to "Perform required CCHE unfiltered air inleakage testing in accordance with the Control Complex Habitability Envelope Integrity Program," in accordance with the approved version of TSTF 448. Based on the adoption of TSTF 448, Revision 3, the licensee's proposal to revise SR 3.7.12.4 is acceptable.

3.4 TS 5.6.2.21, Control Complex Envelope Habitability Program

The proposed administrative controls program TS is consistent with the model program TS in TSTF 448, Revision 3. In combination with SR 3.7.12.4, this program is intended to ensure the operability of the CCHE boundary, which as part of an operable CREVS will ensure that CCHE habitability is maintained such that CCHE 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 CCHE under DBA conditions without personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident.

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

1. Definitions of CCHE and CCHE boundary: This element is intended to ensure that these definitions accurately describe the plant areas that are within the CCHE, and also the interfaces that form the CCHE boundary, and are consistent with the general definitions discussed in Section 2.1 of this safety evaluation. Establishing what is meant by the CCHE and the CCHE boundary will preclude ambiguity in the implementation of the program.
2. Configuration control and preventive maintenance of the CCHE boundary: This element is intended to ensure the CCHE boundary is maintained in its design condition. Guidance for implementing this element is contained in RG 1.196, which endorsed, with exceptions, NEI 99-03. Maintaining the CCHE boundary in its design condition provides assurance that its leak-tightness will not significantly degrade between CCHE inleakage determinations.
3. Assessment of CCHE habitability at the frequencies stated in Sections C.1 and C.2 of RG 1.197, Revision 0, and measurement of unfiltered air leakage into the CCHE in accordance with the testing methods and at the frequencies stated in Sections C.1 and C.2 of RG 1.197. Assessing CCHE habitability at the NRC accepted frequencies provides assurance that significant degradation of the CCHE boundary will not go undetected between CCHE inleakage determinations. Determination of CCHE inleakage using test methods acceptable to the NRC staff

assures that test results are reliable for ascertaining CCHE boundary operability. Determination of CRE leakage at the NRC accepted frequencies provides assurance that significant degradation of the CCHE boundary will not occur between CCHE leakage determinations.

4. The Crystal River's CCHE is not pressurized to limit leakage. Leak tightness and filtration capability provide the necessary level of protection for the control room occupants to ensure that exposure limits associated with DBAs are not exceeded and smoke challenges can be coped with. The air within the CCHE is recirculated and does not require outside air to supplement that which is within the CCHE boundary. TSTF-448, Control Room Envelope Habitability Program 5.5.18.d requires a measurement of CCHE pressure relative to all external areas during the pressurization mode. Since CR-3 CREVS does not operate in a pressurization mode, this section, ITS 5.6.2.21.4, has been revised to state that the Control Complex Habitability Envelope Integrity Program will be used to verify the integrity of the control complex boundary. Conditions that are identified to be adverse shall be trended and used as part of the 24 month assessment of the CCHE boundary.

The NRC staff recognizes that non-pressurized control room envelopes may not be able to conduct a differential pressure test, nevertheless, the staff believes that all plants requesting the adoption of TSTF-448 should include in their request, a method to collect data that will serve as input to a periodic assessment of the CRE boundary. The use of programs such as surveillance, preventive maintenance, and barrier/breach control programs, to verify the integrity of the CRE boundary, the use of a corrective action program, trending of relevant information as part of the assessment program will provide additional assurance that significant degradation of the CRE boundary will not go undetected between CRE leakage determinations.

5. Quantitative limits on unfiltered leakage. This element is intended to establish the CCHE leakage limit as the CCHE unfiltered infiltration rate assumed in the CCHE occupant radiological consequence analyses of DBAs. Having an unambiguous criterion for the CCHE boundary to be considered operable in order to meet LCO 3.7.12 will ensure that associated action requirements will be consistently applied in the event of CRE degradation resulting in leakage exceeding the limit.
6. 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 CCHE habitability and measurement of CCHE leakage), and paragraph number d (measurement of CCHE differential pressure). This statement is needed to avoid confusion. SR 3.0.2 is applicable to the surveillance that references the testing in the CCHE 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 5.6.2.21 states that (1) a CCHE Habitability Program shall be established and implemented, (2) the program shall include all of the

NRC-required elements, as described above, and (3) the provisions of SR 3.0.2 shall apply to program frequencies. Therefore, TS 5.6.2.21, 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, NRC Senior Project Manager, the State of Florida does not desire notification of issuance of license amendments.

5.0 ENVIRONMENTAL CONSIDERATIONS

The amendment changes a requirement with respect to 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 such finding (73 FR 29163). 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. NRC Generic Letter 2003 01, "Control Room Habitability," dated June 12, 2003.
2. ASTM E741-00, "Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution," 2000.

3. Regulatory Guide 1.196, "Control Room Habitability at Light Water Nuclear Power Reactors," Revision 0, dated May 2003.
4. Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003.
5. 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.
6. NEI 99-03,"Control Room Habitability Assessment Guidance," Revision 0, dated June 2001.

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