23

August 2_ 1999

Mr. John Paul Cowan
Vice President, Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear Licensing (NA1B)
Crystal River Energy Complex
15760 W. Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 - ISSUANCE OF AMENDMENT REGARDING CONTROL ROOM EMERGENCY VENTILATION SYSTEM AND VENTILATION FILTER TESTING PROGRAM (TAC NO. MA0667)

Dear Mr. Cowan:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 185 to Facility Operating License No. DPR-72 for Crystal River Unit 3. This amendment is in response to a Florida Power Company (FPC) request dated July 30, 1998, and supplemented on April 8 and July 8, 1999. The FPC submittal requested approval of changes to the Improved Technical Specifications for the Control Room Emergency Ventilation System and to the Ventilation Filter Test Program.

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

Sincerely,
Original signed by:
L. Wiens, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosures: 1. Amendment No. 185 to DPR-72
2. Safety Evaluation

cc w/enclosures: See next page

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

August 23, 1999

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UNITED STATES
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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.
CITY OF TALLAHASSEE

DOCKET NO. 50-302

CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 185
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 30, 1998, as supplemented on April 8 and July 8, 1999, 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. 185, are hereby incorporated in the license. Florida Power Corporation shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Sheri R. Peterson, Chief, Section 2
Project Directorate II
Division of Project Licensing Management
Office of Nuclear Reactor Regulation

Date of Issuance: August 23, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 185

TO FACILITY OPERATING LICENSE NO. DPR-72

DOCKET NO. 50-302

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

Remove Page	Insert Page
3.7-24	3.7-24
3.7-25	3.7-25
3.7-26	3.7-26
B 3.7-60	B 3.7-60
B 3.7-61	B 3.7-61
B 3.7-62	B 3.7-62
B 3.7-63	B 3.7-63
B 3.7-64	B 3.7-64
B 3.7-65	B 3.7-65
----------	B 3.7-65A
----------	B 3.7-65B
----------	B 3.7-65C
5.0-18	5.0-18
5.0-19	5.0-19
5.0-20	5.0-20
5.0-21	5.0-21
5.0-22	--------

3.7 PLANT SYSTEMS

3.7.12 Control Room Emergency Ventilation System (CREVS)

LCO 3.7.12 Two CREVS trains and the Control Complex Habitability Envelope (CCHE) shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREVS train inoperable.	A.1 Restore CREVS train to OPERABLE status.	7 days
B. CCHE inoperable due to a breach or breaches in excess of the limit AND less than or equal to 1 square foot in excess of the limit.	B.1 Restore CCHE boundary.	7 days NOTE
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3 or 4.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours NOTE 36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME	
D. Required Action and associated Completion Time of Condition A or B not met during movement of irradiated fuel assemblies.	----------NOTE---------- Place in emergency recirculation mode if automatic transfer to emergency recirculation mode is inoperable. ----------		NOTE NOTE
	D.1 Place OPERABLE CREVS train in emergency recirculation mode. OR	Immediately	NOTE
	D.2 Suspend movement of irradiated fuel assemblies.	Immediately	NOTE
E. Two CREVS trains inoperable or breaches exist in the CCHE that exceed Condition B during MODE 1, 2, 3, or 4.	E.1 Enter LCO 3.0.3.	Immediately	NOTE
F. Two CREVS trains inoperable or breaches exist in the CCHE that exceed Condition B during movement of irradiated fuel assemblies.	F.1 Suspend movement of irradiated fuel assemblies.	Immediately	NOTE

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	Operate each CREVS train for ≥ 15 minutes.	31 days
SR 3.7.12.2	Perform required CREVS filter testing in accordance with the Ventilation Filter Testing Program.	In accordance with the Ventilation Filter Testing Program
SR 3.7.12.3	Verify each CREVS train actuates to the emergency recirculation mode on an actual or simulated actuation signal.	24 months
SR 3.7.12.4	Verify CCHE boundary leakage does not exceed allowable limits as measured by performance of an integrated leakage test.	24 months NOTE

B 3.7 PLANT SYSTEMS

B 3.7.12 Control Room Emergency Ventilation System (CREVS)

BASES

BACKGROUND

The principal function of the Control Room Emergency Ventilation System (CREVS) is to provide an enclosed environment from which the plant can be operated following an uncontrolled release of radioactivity or toxic gas.

The CREVS consists of two trains with much of the non-safety related equipment common to both trains and with two independent, redundant components supplied for major items of safety related equipment (Ref. 1). The major equipment consists of the normal duty filter banks, the emergency filters, the normal duty and emergency duty supply fans, and the return fans. The normal duty filters consist of one bank of glass fiber roughing filters. The emergency filters consist of a roughing filter similar to the normal filters, high efficiency particulate air (HEPA) filters, and activated charcoal adsorbers for removal of gaseous activity (principally iodine). The rest of the system, consisting of supply and return ductwork, dampers, and instrumentation, is not designed with redundant components. However, redundant dampers are provided for isolation of the ventilation system from the surrounding environment.

The ventilation exhaust duct is continuously tested by radiation monitor RM-A5, which has a range of 10^1 to 10^6 counts per minute. The monitor is set to alarm and initiate the emergency recirculation mode of operation when the radiation level reaches approximately two times the background count rate.

The Control Complex Habitability Envelope (CCHE) is the space within the Control Complex served by CREVS. This includes Control Complex floor elevations from 108 through 180 feet and the stair enclosure from elevation 95 to 198 feet. The elements which compromise the CCHE are walls, doors, a roof, floors, floor drains, penetration seals, and ventilation isolation dampers. Together the CCHE and CREVS provide an enclosed environment from which the plant can be operated following an uncontrolled release of radioactivity or toxic gas.

(continued)

BASES

BACKGROUND (continued)

Design calculations determine the maximum allowed leakage into the CCHE below which control room operator dose and toxic gas concentrations remain within approved limits.

Integrated leak tests of the CCHE determine actual leakage. The difference between allowed and actual leakage is converted to an allowance for breach areas (in square inches) that may exist in the CCHE to accommodate normal operating and maintenance activities. Breaches in excess of the calculated area renders the CCHE incapable of performing its function, and therefore inoperable. Routine opening and closing of the CCHE doors for personnel passage and the movement of equipment is accounted for in the design calculations. A continuous leakage of 10 cubic feet per minute is assumed to account for this. Holding or blocking doors open for short periods of time does not constitute a breach of the CCHE as long as the doors could be closed upon notification of a radiological or toxic gas release. NOTE

CREVS has a normal operation mode and recirculation modes. During normal operation, the system provides filtered, conditioned air to the control complex, including the controlled access area (CA) on the 95 foot elevation. When switched to the recirculation mode, isolation dampers close isolating the discharge to the controlled access area and isolating the outside air intake. In this mode the system recirculates filtered air through the CCHE.

The control complex normal duty ventilation system is operated from the control room and runs continuously. During normal operation, the outside air intake damper is partially open, the atmospheric relief discharge damper is closed, the discharge to the CA is open, and the system return damper is throttled. This configuration allows a controlled amount of outside air to be admitted to the control complex. The design temperature maintained by the system is 75°F at a relative humidity of 50%.

(continued)

BASES

BACKGROUND (continued)

Three signals will cause the system to automatically switch to the recirculation modes of operation.

1. Engineered Safeguards Actuation System (ESAS) signal (high reactor building pressure).

2. High radiation signal from the return duct radiation monitor RM-A5.

3. Toxic gas signal (chlorine or sulfur dioxide)

The recirculation modes isolate the CCHE from outside air to ensure a habitable environment for the safe shutdown of the plant. In these modes of operation, the controlled access area is isolated from the CCHE.

Upon detection of ESAS or toxic gas signals, the system switches to the normal recirculation mode. In this mode, dampers for the outside air intake and the exhaust to the CA will automatically close, isolating the CCHE from outside air exchange, and the system return damper will open thus allowing air in the CCHE to be recirculated. Additionally, the CA fume hood exhaust fan, CA fume hood auxiliary supply fan, and CA exhaust fan are de-energized and their corresponding isolation dampers close. The return fan, normal filters, normal fan, and the cooling (or heating) coils remain in operation in a recirculating mode.

Upon detection of high radiation by RM-A5 the system switches to the emergency recirculation mode. In this mode, the dampers that isolate the CCHE from the surroundings will automatically close. The CA fume hood exhaust fan, CA fume hood auxiliary supply fan, CA exhaust fan, normal supply fan, and return fan are tripped and their corresponding isolation dampers close. Manual action is required to restart the return fan and place the emergency fans and filters in operation. The cooling (or heating) coils remain in operation.

(continued)

BASES

APPLICABLE SAFETY ANALYSIS

During emergency operations the design basis of the CREVS and the CCHE is to provide radiation protection to the control room operators. The limiting accident which may threaten the habitability of the control room (i.e., accidents resulting in release of airborne radioactivity) is the postulated maximum hypothetical accident (MHA), which is assumed to occur while in MODE 1. The consequences of this event in MODE 1 envelope the results for MODES 2, 3, and 4, and results in the limiting radiological source term for the control room habitability evaluation (Ref. 2). A fuel handling accident (FHA) may also result in a challenge to control room habitability, and may occur in any MODE. However, due to the severity of the MHA and the MODES in which the postulated MHA can occur, the FHA is the limiting radiological accident in MODES 5 and 6 only. The CREVS and the CCHE ensures that the control room will remain habitable following all postulated design basis events, maintaining exposures to control room operators within the limits of GDC 19 of 10 CFR 50 Appendix A (Ref. 3).

The CREVS is not in the primary success path for any accident analysis. However, the Control Room Emergency Ventilation System meets Criterion 3 of the NRC Policy Statement since long term control room habitability is essential to mitigation of accidents resulting in atmospheric fission product release.

LCO

Two trains of the control room emergency ventilation system are required to be OPERABLE to ensure that at least one is available assuming a single failure disabling the other train. Failure to meet the LCO could result in the control room becoming uninhabitable in the unlikely event of an accident.

The required CREVS trains must be independent to the extent allowed by the design which provides redundant components for the major equipment as discussed in the BACKGROUND section of this bases. OPERABILITY of the CREVS requires the following as a minimum:

a. A Control Complex Emergency Duty Supply Fan is OPERABLE;

(continued)

BASES

LCO (continued)

b. A Control Complex Return Fan is OPERABLE;

c. HEPA filter and charcoal adsorber 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. The CCHE is intact as discussed below.

The CCHE boundary including the integrity of the doors, walls, roof, floors, floor drains, penetration seals, and ventilation isolation dampers must be maintained within the assumptions of the design calculations. Breaches in the CCHE must be controlled to provide assurance that the CCHE remains capable of performing its function.

NOTE

If the total open breach area in the CCHE exceeds the limit determined in approved design analyses (Reference 2), currently 35.5 square inches, the CCHE is rendered inoperable and entry into LCO Condition B is required. The upper bound of the breach area for the LCO is the sum of the breach area limit plus one square foot (144 square inches). If the Required Action of LCO Condition B is not met within the respective Completion Time, then Condition C or D, as applicable, must be entered.

The ability to maintain temperature in the Control Complex is addressed in Technical Specification 3.7.18.

APPLICABILITY In MODES 1, 2, 3, and 4, the CREVS must be OPERABLE to ensure that the CCHE will remain habitable during and following a postulated accident. During movement of irradiated fuel assemblies, the CREVS must be OPERABLE to cope with a release due to a fuel handling accident.

(continued)

BASES

ACTIONS

A.1

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

B.1

With the CCHE inoperable due to breaches in excess of approved design calculations, but within the criteria stated, operation may continue for 7 days. Restoration of excess breaches is not limited to returning the opening to its pre-breached condition, but can also be accomplished using temporary sealing measures as described in plant procedures and/or work instructions.

Condition B will permit opening breaches in the CCHE to support maintenance and modification to the habitability envelope boundary. It also will establish an allowance for the discovery of breaches during routine operation, and provide the opportunity to repair the breach in a time frame consistent with the low safety significance of small breaches in the CCHE.

NOTE

Condition B also provides an opportunity, following an unsuccessful CCHE leak rate test, to determine the cause for excessive leakage, correct it, and perform a re-test. Excessive leakage measured during an integrated leak test can be converted to an equivalent breach size in accordance with approved design calculations. If the calculated breach size is less than or equal to 179.5 square inches then operation may continue while locating the source of the leakage and performing a re-test.

(continued)

BASES

ACTIONS (continued)

C.1 and C.2

NOTE

In MODE 1, 2, 3, or 4, if the inoperable CREVS train cannot be restored to OPERABLE status, or breaches in the CCHE which exceed allowable limits cannot be closed within the associated Completion Time, the plant must be placed in a MODE in which the LCO does not apply. To achieve this status, the plant must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

NOTE

D.1 and D.2

NOTE

During movement of irradiated fuel assemblies, if the inoperable CREVS train cannot be restored to OPERABLE status, or breaches in the CCHE which exceed allowable limits, cannot be closed within the associated Completion Time, the OPERABLE CREVS train must immediately be placed in the emergency recirculation mode. This action ensures that the remaining train is OPERABLE, that no failures preventing automatic actuation will occur, and that any active failure will be readily detected.

NOTE

An alternative to Required Action D.1 is to immediately suspend activities that could release radioactivity and require isolation of the CCHE. This places the plant in a condition that minimizes the accident risk. This does not preclude the movement of fuel to a safe position.

Required Action D.1 and D.2 are modified by a Note indicating to place the system in the emergency mode if automatic transfer to emergency mode is inoperable.

E.1

NOTE

If both CREVS trains are inoperable or breaches in the CCHE exceed the limits of Condition B in MODE 1, 2, 3, or 4, the CREVS may not be capable of performing the intended function and the plant is in a condition outside the accident analysis. Therefore, LCO 3.0.3 must be entered immediately.

(continued)

BASES

ACTIONS (continued)

F.1

NOTE

During movement of irradiated fuel assemblies, when two CREVS trains are inoperable or breaches in the CCHE exceed the limits of Condition B, action must be taken immediately to suspend activities that could release radioactivity that could enter the CCHE. This places the plant in a condition that minimizes the accident risk. This does not preclude the movement of fuel to a safe position.

NOTE

SURVEILLANCE REQUIREMENTS

SR 3.7.12.1

Standby systems should be checked periodically to ensure that they function properly. Since the environment and normal operating conditions on this system are not severe, testing each train once every month adequately checks proper function of this system. Systems such as the CR-3 design without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system. The 31 day Frequency is based on the known reliability of the equipment and the two train redundancy available.

SR 3.7.12.2

This SR verifies that the required CREVS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREVS filter tests are in accordance with Regulatory Guide 1.52, (Ref. 4) as described in the VFTP Program description (FSAR, Section 9.7.4). The VFTP includes testing HEPA filter performance, charcoal absorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal. Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.12.3

This SR verifies that each CREVS train actuates to place the control complex into the emergency recirculation mode on an actual or simulated actuation signal. The Frequency of 24 months is consistent with the typical fuel cycle length.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.12.4

This SR verifies the integrity of the CCHE and the assumed inleakage rates of potentially contaminated air. During the emergency mode of operation, the CCHE is designed to be a closed environment having limited air exchange with its surroundings. Performance of a periodic leak test verifies the continuing integrity of the CCHE. The Frequency of 24 months is consistent with the typical fuel cycle length.

NOTE

The design of the CCHE precludes performance of the commonly applied leak test characterized by pressurization to a nominal value and measurement of the make up air required to maintain pressurization. The test for CR-3 is performed by operating CREVS in the emergency recirculation mode with the Auxiliary Building Ventilation System operating to maintain a differential pressure between the CCHE and the Auxiliary Building. The Auxiliary Building will be at least 1/8 inch water gauge negative relative to the CCHE. Tracer gas will be used to determine the leakage rate. The acceptance criteria for the test is a leakage rate that would not result in control room personnel exceeding dose limits described in Reference 3 following the most limiting accident. A detailed description of the conditions for conduct of the test are provided in Reference 2.

REFERENCES

1. FSAR, Section 9.7.2.1.g.

2. CR-3 Control Room Habitability Report, dated July 30, 1998.

3. 10 CFR 50, Appendix A, GDC 19.

4. Regulatory Guide 1.52, Rev. 2, 1978.

5.6 Procedures, Programs and Manuals

5.6.2.11 Secondary Water Chemistry Program (continued)

c. Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in leakage;

d. Procedures for the recording and management of data;

e. Procedures defining corrective actions for all off control point chemistry conditions; and

f. A procedure identifying the authority responsible for the interpretation of the data and the sequence and timing of administrative events, which is required to initiate corrective action.

5.6.2.12 Ventilation Filter Testing Program (VFTP)

A program shall be established to implement the following required testing of the Control Room Emergency Ventilation System (CREVS) and the Auxiliary Building Ventilation Exhaust System (ABVES) per the requirements specified in Regulatory Guide 1.52, Revision 2, 1978, and/or as specified herein, and in accordance with ANSI N510-1975 and ASTM D 3803-89 (Re-approved 1995).

a. Demonstrate for each train of the CREVS that an inplace test of the high efficiency particulate air (HEPA) filters shows a penetration < 0.05% when tested in accordance with Regulatory Guide 1.52, Revision 2, 1978, and in accordance with ANSI N510-1975 at the system flowrate of between 37,800 and 47,850 cfm.

b. Demonstrate for each train of the CREVS that an inplace test of the carbon adsorber shows a system bypass < 0.05% when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1975 at the system flowrate of between 37,800 and 47,850 cfm.

c. Demonstrate for each train of the CREVS that a laboratory test of a sample of the carbon adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, 1978, meets the laboratory testing criteria of ASTM D 3803-89 (Re-approved 1995) at a temperature of 30°C and relative humidity of 95% with methyl iodide penetration of less than 2.5%.

(continued)

5.6 Procedures, Programs and Manuals

5.6.2.12 VFTP (continued)

d. Demonstrate for each train of CREVS that the pressure drop across the combined roughing filters, HEPA filters and the carbon adsorbers is $\leq$ ΔP=4" water gauge when tested in accordance with Regulatory Guide 1.52, Revision 2, 1978, and ANSI N510-1975 at the system flowrate of between 37,800 and 47,850 cfm.

e. Demonstrate for each train of the ABVES that an inplace test of the HEPA filters shows a penetration < 1% when tested in accordance with ANSI N510-1975 at the system flowrate of between 35,253 and 43,087 cfm.

f. Demonstrate for each train of the ABVES that an inplace test of the carbon adsorber shows bypass < 1% when tested in accordance with ANSI N510-1975 at the system flowrate of between 35,253 and 43,087 cfm.

g. Demonstrate for each train of the ABVES that a laboratory test of a representative sample of the carbon adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, 1978, meets the laboratory testing criteria of ASTM D 3803-89 (Re-approved 1995) at the temperature of 30°C and relative humidity of 95% with methyl iodide penetration of less than 12.5%.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

5.6.2.13 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the Radioactive Waste Disposal (WD) System, the quantity of radioactivity contained in gas storage tanks or fed into the offgas treatment system. The gaseous radioactivity quantities shall be determined following the methodology in Branch Technical Position (BTP) ETSB 11-5, "Postulated Radioactive Release due to Waste Gas System Leak or Failure". The liquid radwaste quantities shall be determined in accordance with Standard Review Plan, Section 15.7.3, "Postulated Radioactive Release due to Tank Failures".

The program shall include:

a. The limits for concentrations of hydrogen and oxygen in the Radioactive Waste Disposal (WD) System and a surveillance program to ensure the limits are maintained. Such limits

(continued)

5.6 Procedures, Programs and Manuals

5.6.2.13 Explosive Gas and Storage Tank Radioactivity Monitoring Program (continued)

shall be appropriate to the system's design criteria, (i.e., whether or not the system is designed to withstand a hydrogen explosion).

b. A surveillance program to ensure that the quantity of radioactivity contained in each gas storage tank and fed into the offgas treatment system is less than the amount that would result in a whole body exposure of ≥ 0.5 rem to any individual in an unrestricted area, in the event of an uncontrolled release of the tanks' contents.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Explosive Gas and Storage Tank Radioactivity Monitoring Program surveillance frequencies.

5.6.2.14 Diesel Fuel Oil Testing Program

A diesel fuel oil testing program to implement required testing of both new fuel oil and stored fuel oil shall be established. The program shall include sampling and testing requirements, and acceptance criteria, in accordance with applicable ASTM Standards. The purpose of the program is to establish the following:

a. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has the following properties within limits of ASTM D 975 for Grade No. 2-D fuel oil:

1. Kinematic Viscosity,
2. Water and Sediment,
3. Flash Point,
4. Specific Gravity API;

b. Other properties of ASTM D 975 for Grade No. 2-D fuel oil are within limits within 92 days following sampling and addition of new fuel to storage tanks.

c. Total particulate contamination of stored fuel oil is < 10 mg/L when tested once per 92 days in accordance with ASTM D 2276-91 (gravimetric method).

5.6.2.15 Not Used

(continued)

5.6 Procedures, Programs and Manuals

5.6.2.16 Safety Function Determination Program (SFDP)

This program ensures loss of safety function is detected and appropriate actions taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other appropriate limitations and remedial or compensatory actions may be identified to be taken as a result of the support system inoperability and corresponding exception to entering supported system Condition and Required Actions. This program implements the requirements of LCO 3.0.6.

The SFDP shall contain the following:

a. Provisions for cross train checks to ensure a loss of the capability to perform the safety function assumed in the accident analysis does not go undetected;

b. Provisions for ensuring the plant is maintained in a safe condition if a loss of function condition exists;

c. Provisions to ensure that an inoperable supported system's Completion Time is not inappropriately extended as a result of multiple support system inoperabilities; and

d. Other appropriate limitations and remedial or compensatory actions.

A loss of safety function exists when, assuming no concurrent single failure, a safety function assumed in the accident analysis cannot be performed. For the purpose of this program, a loss of safety function may exist when a support system is inoperable, and:

a. A required system redundant to the system(s) supported by the inoperable support system is also inoperable); or

b. A required system redundant to the system(s) in turn supported by the inoperable supported system is also inoperable; or

c. A required system redundant to the support system(s) for the supported systems (a) and (b) above is also inoperable.

(continued)

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION RELATED TO AMENDMENT NO. 185 TO FACILITY OPERATING LICENSE NO. DPR-72 CONTROL ROOM EMERGENCY VENTILATION SYSTEM AND VENTILATION FILTER TESTING PROGRAM FLORIDA POWER CORPORATION CRYSTAL RIVER UNIT 3 DOCKET NO. 50-302

1.0 INTRODUCTION

By letter dated July 30, 1998, as supplemented April 8 and July 8, 1999, the Florida Power Corporation submitted a license amendment request for Crystal River Unit 3 (CR-3) to revise Technical Specifications (TS) 3.7.12 and B 3.7.12, "Control Room Emergency Ventilation System (CREVS)" and TS 5.6.2.12, "Ventilation Filter Testing Program (VFTP)." The April 8 and July 8, 1999 supplements did not affect the original proposed no significant hazards determination, or expand the scope of the request as noticed in the Federal Register.

In the July 8, 1999, letter, the licensee, at the request of the Nuclear Regulatory Commission (NRC) staff, revised their submittal to propose that TS 3.7.12, "Control Room Emergency Ventilation System (CREVS)," only be valid until the beginning of Cycle 13. The staff requested this change to allow resolution of generic issues associated with this change. The remainder of the July 30, 1998, submittal remained unchanged.

2.0. BACKGROUND

The CR-3 Operating License contains a requirement to maintain control room habitability as specified in Item III.D.3.4, "Control Room Habitability Requirements," of NUREG-0737, "Clarifications of TMI Action Plan Requirements." The licensee identified, during system readiness review, that the value of unfiltered inleakage into the control complex habitability envelope (CCHE) was higher than the value utilized in its original control room habitability analysis. The licensee considered the following actions to maintain the design and licensing basis and address the unfiltered inleakage issue:

- Modifications to reduce CCHE inleakage by improving the integrity of boundary elements;
- Design changes to the CREVS to provide alternate means of mechanical equipment room ventilation and to improve system reliability; and
- Programmatic changes to ensure that the assigned efficiency of the control complex charcoal filters is consistent with regulatory guidance and to ensure periodic leak testing of the CCHE boundary is performed.

The CREVS was modified by installing redundant bubble-tight dampers at all system connections that penetrate the boundary of the control complex and eliminating the system that cooled the ventilation equipment room with outside air. The modifications to the CCHE included an extensive sealing program and the addition of vestibules over all CCHE boundary doors.

The licensee also included a revised Control Room Habitability Report with the July 30, 1998, submittal to present (1) the latest design of CREVS and the CCHE, (2) the inleakage measurement technique that is used and the means by which it is converted to an inleakage rate for calculations, (3) the methods, assumptions and results of the revised dose calculations and (4) the improvements made to toxic gas inventories and controls. This revised report is currently under staff review.

The CREVS consists of two independent safety-related air recirculation trains that, in addition to cooling capability, have the ability to divert 100 percent of the recirculation flow through an emergency filter unit (EFU). Each EFU contains, in the direction of flow, a roughing filter, a high efficiency particulate air (HEPA) filter, a 2-inch activated carbon filter bank, and a safety-related recirculation booster fan. The EFUs do not include means to lower the humidity of the air as it enters the adsorber bank, such as electric heating coils. Heaters are not required since the system only operates in a recirculation mode. The emergency recirculation fans are powered by separate safety-related power sources. The CREVS processes and filters air from the top five levels of the control complex.

Upon detection of either high reactor building pressure or high radiation in normal control room (CR) ventilation ductwork, as detected by RM-A5, the redundant, bubble-tight boundary isolation dampers are automatically closed. The operation of the emergency fans and filters is manually initiated by the operator. The calculations assume 30 minutes for manual initiation of the filters.

The redundant, bubble-tight boundary isolation dampers are also automatically closed as a result of a loss of offsite power (LOOP). The operation of the CREVS during a LOOP is manually initiated by the operators. Although the diesel loading would allow starting the CREVS well before 30 minutes, the operation of the CREVS is not credited for 30 minutes.

The CREVS provides environmental control for personnel comfort, equipment operation and protection of control room personnel during radiological and toxic gas events. It provides habitability via zone isolation with filtered recirculation. The control complex is not pressurized to limit inleakage. Leak tightness and filtration capability provide the necessary level of protection for the control room operator to ensure that exposure limits associated with design-basis accidents and toxic gas events are not exceeded.

3.0 EVALUATION

The staff has completed its review and evaluation of the licensee's submittals. The proposed changes to TS 3.7.12 (valid until the beginning of Cycle 13), the permanent change to TS 5.6.2.12 and the licensee's justifications for these changes, are described below:

3.1 TS 3.7.12 Control Room Emergency Ventilation System (CREVS)

The licensee stated in their submittal that the current CREVS TS addresses the components of the ventilation system loop including fans, dampers, filters, and associated ductwork. However, the TS is silent on the components that make up the CCHE boundary including the walls, doors, roof, floors, and floor drains of the control complex, and does not explicitly address the isolation dampers. Including the CCHE in the scope of TS 3.7.12 would cover these components.

The licensee's calculations indicate doses to control room operators in the 30-day period following a maximum hypothetical accident (MHA) due to radioactivity leaking into the habitability envelope conform to GDC-19 limits. Calculations have also been performed to determine how much additional leakage can be tolerated while assuring doses will not exceed the regulatory limit. The additional leakage that can be tolerated is converted into an equivalent breach size that can be allowed in the habitability envelope to accommodate wear and tear on doors and maintenance/modification activities on habitability envelope boundary components. Based on the most recent leak test, 35.5 square inches of breaches are allowed in the habitability envelope boundary. This allowable breach size may increase or decrease when a leak test of the habitability envelope is performed and finds less or more leakage than the last test.

The licensee proposed to add the CCHE to the Limiting Condition for Operability (LCO) scope of TS 3.7.12. An associated ACTION CONDITION B was added to address CCHE inoperability due to a breach or breaches of the CCHE in excess of the limit (i.e., 35.5 square inches) and less than or equal to 1 square foot in excess of the limit (i.e., 179.5 square inches) for up to 7 days. This change was requested until the beginning of Cycle 13 only.

The proposed Condition B would be entered when breaches totaling greater than 35.5 square inches but less than 179.5 square inches exist, with an Allowed Outage Time (AOT) of up to 7 days. This allowance would permit additional breaches to facilitate maintenance/modification activities, or to accommodate door or seal failures that may occur. The proposed provision would permit the licensee to test, evaluate results, inspect/seal, and re-test the CCHE within the allowed 7-day period while operating.

Breaches would be authorized and tracked via a CR-3 administrative control procedure (Compliance Procedure, CP-147, "Control Complex Habitability Envelope (CCHE) Breaches") to assure the breach limit is not exceeded and operability is maintained in day-to-day operation. The process contained in CP-147 identifies the location and size of open breaches. In the event of an accident that poses a threat to control room habitability, breaches can be readily closed. The relatively small size of any single breach would facilitate closure using materials that are readily available.

Recent NRC-sponsored research on release of radioactive material from a damaged core, NUREG-1465, "Accident Source Terms for Light-Water Nuclear Power Plants," indicates much lower releases than are currently approved for use in dose calculations using Regulatory Guide (RG) 1.4, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Pressurized Water Reactors." Lower releases would translate directly into lower calculated doses and lower actual doses, thereby minimizing the threat from additional breaches or leakage into the habitability envelope.

No threat to operators from toxic gas is created by the proposed breach allowance due to the reduction in the amount of toxic gas onsite, new analyses of the remaining toxic gas sources, and the insensitivity of toxic gas concentrations in the control room to breaches in the habitability envelope. Limiting toxic gas exposures come from "puff" releases that result in a highly concentrated cloud of gas entering the control complex through the normal ventilation intake. Since this type of release is quickly transported beyond the CCHE, the existence of breaches would not contribute significantly to toxic gas concentrations in the CCHE.

Since the staff has not completed its review of the licensee's revised control room habitability report, the justification for continued operation (JCO) and associated compensatory measures, as described in FPC letter dated January 14, 1998, remain in effect. The staff has previously determined, in a letter dated February 3, 1998, that these measures provide reasonable assurance that CR-3 control room doses following design basis accidents will meet the requirements of 10 CFR Part 50, Appendix A, GDC-19 and the specifications of Standard Review Plan Chapter 6.4 during all operating modes. This determination is primarily based on the licensee's commitment for the timely administration of potassium iodide for thyroid prophylaxis. The staff's review of the proposed change relies in part on this previous determination and that the JCO and associated compensatory actions will remain in effect until the beginning of Cycle 13.

The staff also performed an independent habitability analysis for two toxic chemicals (sulfur dioxide and chlorine) that could be released from their containers and infiltrate into the CCHE. The staff analysis was based on the assumptions of the bounding control room volume (88,000 cubic ft), leak rate proportional to the size of break (179.5 square inches), and two cases: chemical container burst and chemical container developing a leak with a leakage rate of 100 kg/sec. The atmospheric conditions were selected to represent the most conservative values. Based on the amount of chlorine (64,000 lb) and sulfur dioxide (100,000 lb) in the containers and bounding distance from the chlorine and sulfur dioxide containers to the inlet to the CCHE (3400 ft), the concentration of chlorine or sulfur dioxide (container burst and container leak) in the CCHE would be below the limits for the 2-minute criterion as specified in RG 1.78, "Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release" and RG 1.95, "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release," after either chemical was detected. Therefore, based upon the above, the toxic releases inside the CCHE due to the above chemicals are acceptable for the proposed temporary LCO Condition B to TS 3.7.12.

In addition to the potential for an increased dose contribution to the CR operators, a breach of the habitability envelope could allow smoke or toxic gasses built up in adjacent areas (e.g., the Turbine Building) to enter the CR, thus increasing the total plant risk. The licensee performed a risk assessment for the toxic gasses stored onsite and concluded that the risk increase, in terms of core damage frequency, is insignificant. The staff review found this assessment acceptable. The risk increase due to smoke entering the CR though the breach was not assessed by the licensee. However, the licensee stated that there are administrative control procedures in place (CP-147) to ensure that breaches can be readily closed in case of an event, such as a fire in an adjacent area, that poses a threat to control room habitability. The staff performed a bounding assessment of the risk impact of smoke entering the CR through the breach following a fire in an adjacent area, such as the Turbine Building. It was concluded that, due to the availability of CP-147, the average increase in yearly risk (assuming the proposed change will be valid until the beginning of Cycle 13) is expected to be insignificant based on guidance provided in RG 1.174, "An Approach for Using

Probabilistic Risk Assessment in Risk-Informed Decisions On Plant-Specific Changes to the Licensing Basis." Furthermore, the risk increase during the AOT was assessed by the staff and found acceptable based on guidelines provided in RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decision making: Technical Specifications." Therefore, the staff finds the proposed LCO Condition B to TS 3.7.12 acceptable.

The licensee also proposed changes to the remaining Conditions and Required Actions of TS 3.7.12 to reflect the new Condition B. The staff finds that the additional changes to the Conditions and Required Actions of TS 3.7.12 are necessary to maintain consistency between the Required Action steps and are acceptable.

3.2 Proposed Surveillance Requirement (SR) 3.7.12.4

The licensee proposed a new SR to verify that CCHE boundary leakage does not exceed allowable limits as measured by performance of an integrated leakage test every 24 months. The proposed SR verifies the integrity of the CCHE and the assumed inleakage rates of potentially contaminated air. During the emergency mode of operation, the CCHE is designed to be a closed environment having limited air exchange with its surroundings. Performance of a periodic leak test verifies the continuing integrity of the CCHE. The frequency of 24 months is consistent with the typical fuel cycle length.

The design of the CCHE precludes performance of the commonly applied leak test characterized by pressurization of the CCHE to a nominal value and measurement of the make-up air required to maintain pressurization. The test for CR-3 is performed by operating CREVS in the emergency recirculation mode with the auxiliary building ventilation exhaust system (ABVES) operating to maintain a differential pressure between the CCHE and the auxiliary building. The auxiliary building will be at least 1/8 inch water gauge negative pressure relative to the CCHE. Tracer gas will be used to determine the leakage rate. The acceptance criterion for the test is a leakage rate that would not result in control room personnel exceeding dose limits following the most limiting accident.

The proposed SR to perform a periodic leak test is similar to that included in Babcock & Wilcox Standard Technical Specifications. It will determine the leakage across the habitability boundary, and allow licensee personnel to verify that the integrity of the CCHE is being maintained within the design basis. The licensee stated that tracer gas testing based on American Society for Testing and Materials (ASTM) Standard E741-93, "Standard Test Method for Determining Air Change Rate in a Single Zone by Means of a Tracer Gas Dilution," will be used to verify that the integrity of the CCHE is being maintained within the design basis. The staff finds that the proposed SR 3.7.12.4, provides a new testing requirement that is more restrictive than the existing requirements for measuring unfiltered inleakage into the control complex habitability envelope and is, therefore, acceptable until the beginning of Cycle 13.

3.3 TS 5.6.2.12 Ventilation Filter Testing Program (VFTP)

The licensee proposed updating the laboratory test standards to conform to current standards. The change in carbon adsorber laboratory test standard will provide a more conservative test than that to which the licensee is currently committed. The new test conditions for the CCHE and auxiliary building ventilation exhaust system (ABVES) filters are more representative of the operating

conditions to which the carbon adsorber material will be exposed when in service. This change is conservative since testing at a higher temperature may overestimate adsorption capability at the expected filter media operating temperature.

The licensee has made major changes to improve control room habitability and CREVS performance. New control room radiological dose calculations have been performed. Lower, more conservative CREVS flow rates were used in the dose calculations. Flow rates were chosen which reflect the reduced flow associated with filter fouling. The values of allowed filter differential pressure and lower flow rate limit are being changed for the CREVS filter tests to be consistent with the calculations.

The staff finds that the licensee's proposed change whereby the VFTP for CREVS and the ABVES testing shall conform with RG 1.52, Revision 2, 1978, "Design, Testing, and Maintenance Criteria for Post Accident Engineered-Safety-Feature Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants," and in accordance with American Society of Mechanical Engineers N510-1975, "Testing of Nuclear Air Treatment System" and ASTM D 3803-89, "Standard Test Method for Nuclear-Grade Activated Carbon," is acceptable because the proposed change reflects the use of acceptable and improved standards.

3.4 Inplace Testing and Pressure Drop for the CREVS filters

The new lower limit on flow of 37,800 cfm for HEPA filters and charcoal adsorbers was chosen for inplace testing based on actual measured flow rates, and the calculated reduction in flow due to filter fouling and increased differential pressure across the filters. The staff finds that the licensee's proposed change whereby the VFTP for CREVS inplace testing for the HEPA filters and charcoal adsorbers conforms with RG 1.52, Revision 2, 1978, Positions C.5.a, C.5.c, and C.5.d, and in accordance with ASME N510-1975, and is, therefore, acceptable. A corresponding change to the maximum allowed filter differential pressure from 6 inches to 4 inches is based on actual measured flow rates and is consistent with the flow and dose calculations, and is, therefore, acceptable to the staff.

3.5 Laboratory Testing for the CREVS Charcoal Adsorbers

The licensee proposed revising TS 5.6.2.12.c to require a demonstration for each train of the CREVS that a laboratory test of a sample of the carbon adsorber, when obtained as described in RG 1.52, Revision 2, 1978, meets the laboratory testing criteria of ASTM D 3803-89 (Re-approved 1995) at a temperature of 30 °C and relative humidity of 95 percent with methyl iodide penetration of less than 2.5 percent. The licensee provided the following discussion and justification for this change:

a. The existing VFTP requires laboratory testing of carbon adsorber samples in accordance with RG 1.52, Revision 2, 1978 and American National Standards Institute N509 -1976. These documents ultimately require that the test be performed to US Atomic Energy Commission, Division of Reactor Development and Technology Standard RDT M16-1T, "Gas Phase Adsorbents for Trapping Radioactive Iodine and Iodine Components." Performance of laboratory tests in accordance with ASTM D 3803-1989 eliminates technical problems that have been identified with the RDT 16-1T test method.

b. The current test conditions specified in the VFTP are temperature of 80 °C and 70 percent relative humidity (RH). The proposed test conditions of 30 °C and 95 percent RH are more representative of the conditions to which the CR-3 carbon adsorber would be exposed following a radiological accident. NRC Information Notice 86-76, "Problems Noted in Control Room Emergency Ventilation Systems," indicated that laboratory testing of carbon at a temperature higher than that expected during the course of an accident could result in a significant over-prediction of the capability of the carbon to remove methyl iodide. Therefore, the proposed test conditions will give a more accurate prediction of the performance of the carbon under post-accident conditions.

c. ASTM D 3803-1989 is more stringent than RDT M16-1T, since it has closer tolerances on temperature, RH, and time. These tolerances result in better reproducibility of the test results. Testing in accordance with ASTM D 3803-1989 at 30 °C and 95 percent RH with a 2.5 percent penetration limit is more conservative than testing to RDT M16-1T at 80 °C and 70 percent RH with a penetration limit of 1 percent due to the more stringent tolerances on temperature and humidity in ASTM D3803-1989. The combined effects of testing at more representative conditions and the use of the improved test standard compensates for the increased penetration limit.

The staff assessment for the proposed permanent change is as follows:

The current CR-3 TS 5.6.2.12.c requires that laboratory analyses of the carbon samples use the test procedures of Military Specification RDT M16-1T (date not indicated), but specifies that the test is to be conducted at 80 °C and 70 percent RH. The essential elements of this test are as follows:

- 70 percent RH,
- 5 hour pre-equilibration (pre-sweep) time, with air at 80 °C and 70 percent RH,
- 2 hour challenge, with gas at 80 °C and 70 percent RH, and
- 2 hour elution (post-sweep) time, with air at 80 °C and 70 percent RH.

The licensee proposed TS 5.6.12.2.c requires that samples be obtained as described in RG 1.52, Revision 2, but specifies that the samples be tested in accordance with ASTM D3803-1989 at 30°C and 95 percent RH. ASTM D3803-1989 is updated guidance based on an NRC verification and validation effort on ASTM D3803-1979, which is updated guidance based on RDT M16-1T. The essential elements of the proposed TS changes for testing per ASTM D3803-1989 are:

- 95 percent RH
- 2 hour minimum thermal stabilization, at 30 °C,
- 16 hour pre-equilibration (pre-sweep) time, with air at 30 °C and 95 percent RH,
- 2 hour equilibration time, with air at 30 °C and 95 percent RH,
- 1 hour challenge, with gas at 30 °C and 95 percent RH, and

- 1 hour elution (post-sweep) time, with air at 30 °C and 95 percent RH.

The major differences between the current and proposed TS requirements for carbon testing are:

MAJOR DIFFERENCES	Proposed TS	Current TS
Pre-Equilibration (Pre-Sweep) Temperature	30 °C	80 °C
Challenge Temperature	30 °C	80 °C
Elution (Post-Sweep) Temperature	30 °C	80 °C
Relative Humidity	95 percent	70 percent
Total Pre-Test Equilibration	18 hours	5 hours
Tolerances of Test Parameters	Smaller	Larger

The discussion below demonstrates that these differences make the proposed TS more conservative than the current TS requirements and, therefore, the proposed TS for CR-3 is acceptable.

ASTM D3803-1989 challenges the representative charcoal samples at 30 °C rather than at 80 °C. In addition, ASTM D3803-1989 specifies a test temperature of 30 °C for both the pre-test and post-test sweep rather than 80 °C. The quantity of water retained by charcoal is dependent on temperature, with less water being retained as the temperature rises. The water retained by the charcoal decreases its efficiency in adsorbing other contaminants. Because most charcoal is anticipated to be challenged at a temperature closer to 30 °C rather than 80 °C, the lower temperature test condition of ASTM D3803-1989 will yield more realistic results than a test performed at 80 °C.

ASTM D3803-1989 provides results which are reproducible compared to RDT M16-1T because it has smaller tolerances on various test parameters, and it requires that the charcoal sample be pre-equilibrated for a much longer period. The longer pre-equilibration time is more conservative because it will completely saturate the representative charcoal sample which ensures reproducibility of the results by having every charcoal sample begin the test at the same initial conditions. Hence, the proposed testing in accordance with ASTM D-3803-1989 standard would result in a more realistic prediction of the capability of the charcoal and is consistent with the intent of GL 99-02, "Laboratory Testing of Nuclear Grade Activated Carbon," June 3, 1999.

In addition, proposed TS 12.5.6.2.c requires that the laboratory testing of charcoal samples show an acceptable methyl iodide penetration. In the licensee's dose analysis, 2-inch charcoal beds are credited with a filter efficiency of 95 percent. The licensee's proposed acceptance criterion is a methyl iodide penetration of less than 2.5 percent for CR-3. The proposed acceptance criterion includes a safety factor of two which provides the staff with a degree of assurance that, at the end of the operating cycle, the charcoal will be capable of performing at least as well as assumed in the licensee's dose analysis. This factor of safety is acceptable based on the accuracy of test results obtained using the ASTM D3803-1989 standard.

3.6 Inplace Testing and Laboratory Testing for the ABVES Filters

Control room habitability dose calculations include scenarios that postulate both a LOOP and no LOOP in combination with radiological release events. For scenarios where there is no LOOP, the ABVES and auxiliary building ventilation exhaust filters (ABVEFs) will remain functional and are credited in control room dose analyses. Therefore, the licensee proposed the addition of ABVEFs to the VFTP.

The ABVEFs were included in the CR-3 Standard TS (STS), and were removed in the conversion to Improved TS (ITS) in 1993. The basis for removal was that the filters were not credited as part of any accident analysis. The analyses presented in the licensee's revised Control Room Habitability Report, included in the July 30, 1998 submittal, takes credit for the ABVES at 75 percent iodine removal efficiency when the accident scenario does not include a LOOP. Therefore, the ABVES is being added to the ITS VFTP.

The licensee stated that the acceptance criteria for high efficiency particulate air filter penetration and inplace carbon adsorber system bypass are consistent with the former STS requirements. The acceptance criterion for laboratory testing of carbon adsorber samples is being changed to 12.5 percent penetration to be consistent with the filter efficiency credited in control room dose calculations. In accordance with guidance provided in draft Generic Letter (GL) 99-02, a safety factor of two has been applied to the credited 75 percent removal efficiency to determine the laboratory sample acceptance criterion.

The licensee indicated that no LCO was being proposed for the auxiliary building (AB) exhaust fans. These fans are normally operating 100 percent of the time to maintain environmental conditions within the auxiliary building, and to maintain a slight negative pressure in the auxiliary building to control the release of radioactivity to the environment. Normal operating and maintenance practices assure one train of auxiliary building exhaust fans are available and in operation. Dose analyses of the MHA and letdown line failure accident were performed for both LOOP and non-LOOP scenarios. The effects of the unavailability of the auxiliary building exhaust fans, and therefore the filters, for the non-LOOP scenarios are bounded by the existing calculations. In general, unavailability of the AB fans results in lower leakage into the CCHE and results in lower calculated dose.

The staff's evaluation on inplace testing for HEPA and carbon adsorber filters in TS 5.6.2.12.a and TS 5.6.12.2.b, and laboratory testing of a representative sample of the carbon adsorber in TS 5.6.12.2.c is also applicable to the above ABVES TS except that: (1) the flow rate through each filtration train is between 35,253 and 43,087 cfm; (2) inplace test penetration through the HEPA filter and bypass through the carbon adsorber is less than 1 percent; and (3) credited iodide removal efficiency through carbon adsorber is 75 percent. The staff also agrees with the licensee's above rationale. Therefore, the proposed TS for the ABVES is acceptable.

3.7 Technical Specification Bases

The Bases associated with the changes to TS 3.7.12 and 5.6.2.12 were revised to reflect the proposed changes to these specifications and are acceptable.

4.0 STATE CONSULTATION

Based upon a letter dated March 8, 1991, from Mary E. Clark of the State of Florida, Department of Health and Rehabilitative Services, to Deborah A. Miller, Licensing Assistant, U.S. NRC, the State of Florida does not desire notification of issuance of license amendments.

5.0 ENVIRONMENTAL CONSIDERATIONS

The amendment changes requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding (63 FR 64115). 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

Based on its review of the licensee's proposal and the guidance provided in RG 1.174, the staff concludes that the average increase in yearly risk (assuming the proposed change will be valid to the beginning of Cycle 13), is expected to be insignificant. Furthermore, the risk increase during the AOT was assessed by the staff to be acceptable based on guidelines provided in RG 1.177. These findings support the proposed LCO Condition B to TS 3.7.12. Additionally, the staff performed an independent habitability analysis for toxic chemicals (sulfur dioxide and chlorine) which could be released and infiltrate the CCHE and found that the concentration of these chemicals in the CCHE would be below the limits for the two-minute criterion as specified in RG 1.78 and 1.95. Therefore, based upon the above, the staff concludes that the proposed LCO Condition B to TS 3.7.12 is acceptable until the beginning of Cycle 13.

The staff finds that the proposed changes to the LCO Conditions C through F to TS 3.7.12 are administrative changes which reflect the addition of LCO Condition B concerning the CCHE inoperability. Therefore, the changes to these LCO Conditions are acceptable.

Proposed SR 3.7.12.4 (valid until the beginning of cycle 13) for verifying unfiltered inleakage inside CCHE is a new SR. The staff finds that the proposed SR 3.7.12.4, provides a new testing requirement which is more restrictive than the existing requirements for measuring unfiltered inleakage into the control complex habitability envelope and is, therefore, acceptable until the beginning of Cycle 13.

The proposed change to TS 5.6.2.12, "Ventilation Filter Testing Program (VFTP)," is consistent with the ITS and results in a more restrictive requirement than previously specified and is, therefore, acceptable. The proposed permanent change to test charcoal in accordance with the ASTM D-3803-1989 standard would result in a more realistic prediction of the capability of the charcoal and is consistent with the intent of GL 99-02, and is, therefore, acceptable.

The staff concludes 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.

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