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JUL 18 2011

L-2011-264
10 CFR 50.90

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555-0001

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
License Amendment Request (LAR 194)
Control Room Habitability TSTF-448
Requests for Additional Information
(TAC NOS. ME0004 AND ME0005)

References:

1) M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2010-004), "License Amendment Request (LAR 194) – Control Room Habitability TSTF-448, July 16, 2010

2) Email from J. Paige (NRC) to Bob Tomonto (FPL), "Requests for Additional Information," June 16, 2011

By letter L 2010-004 dated July 16, 2010 [Reference 1], Florida Power and Light (FPL) Company requested an amendment to Facility Operating Licenses DPR-31 and DPR-41 for Turkey Point Units 3 and 4 Technical Specifications. The proposed amendment would modify the Technical Specification (TS) requirements related to control room envelope habitability in accordance with Technical Specification Task Force (TSTF) Change Traveler TSTF-448 Revision 3, "Control Room Habitability."

On June 16, 2011, FPL received Requests for Additional Information via email [Reference 2] from the U.S. Nuclear Regulatory Commission (NRC) Project Manager Mr. Jason Paige. The RAI consisted of five questions pertaining to the License Amendment Request (LAR 194). Attachment 1 provides these RAI questions and the FPL responses. Attachment 2 provides the TS pages that were revised to be consistent with the RAI responses. Attachment 3 provides the revised proposed TS Bases pages from Reference 1, with change bars to show the proposed changes due to the RAI responses.

The Turkey Point Plant Nuclear Safety Committee has reviewed the proposed license amendment changes. In accordance with 10 CFR 50.91(b)(1), a copy of the proposed amendment changes is being forwarded to the State Designee for the State of Florida.

The proposed changes have been evaluated in accordance with 10 CFR 50.91(a)(1), using the criteria in 10 CFR 50.92(c). FPL has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the Federal Register as part of the CLIIP. FPL has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to Turkey Point Units 3 and 4 and is hereby incorporated by reference to satisfy the requirements of

A102
NRR

10 CFR 50.91(a). This submittal does not alter the NSHCD or environmental assessment.

This submittal contains no new commitments.

Should you have any questions regarding this submittal, please contact Mr. Robert J. Tomonto, Licensing Manager, at (305) 246-7327.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on July 18, 2011.

Very truly yours,

Michael Kiley
Vice President
Turkey Point Nuclear Plant

Attachments

cc: Regional Administrator, Region II, USNRC
USNRC Project Manager, Turkey Point Nuclear Plant
Senior Resident Inspector, USNRC, Turkey Point Nuclear Plant
Mr. W. A. Passetti, Florida Department of Health

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ATTACHMENTS

RAI QUESTIONS AND RESPONSES

Responses to the RAIs are provided below. The RAI responses impact two pages of the previously submitted (July 16, 2010) proposed Technical Specification changes. These are attached as well.

1. RAI: On page 2 of 7 of Enclosure 1 to your letter dated July 16, 2010, it states that Turkey Point does not have an administrative control technical specification (TS) requirement for a ventilation filter testing program (VFTP), so the TS 4.7.5.d test flow rate is specified in lieu of the VFTP. As stated in the program and manuals section of the standard technical specifications (STSs) as modified by TSTF-448 Revision 3, Paragraph (d) of Section [5.5.18], "Control Room Habitability Program", a differential pressure test is to be conducted between performances of inleakage testing for the purpose of providing input to a periodic assessment of the control room envelope (CRE) boundary. The technical analysis section of TSTF-448 Revision 3 on Page 8 provides an explanation of the basis for Paragraph (d), which was approved by the NRC staff and made available in the *Federal Register* dated January 17, 2007. The NRC staff understands that Turkey Point does not have a VFTP, nevertheless, all plants requesting the adoption of TSTF-448 should include in its request, a method to collect data that will serve as input to a periodic assessment of the CRE boundary.

   The NRC staff is not clear how TS 4.7.5.d addresses the intent of TSTF-448 Revision 3, Paragraph (d) of Section [5.5.18] of your control room habitability (CRH) program. Justify how TS 4.4.5.d meets the intent of TSTF-448 Revision 3, TS 5.5.18.d or provide a method to collect data, and an explanation of how you intend to use it, that can be used as input to a periodic assessment of your CRE boundary. The method should, to the extent practicable, provide information that can be used in a manner similar to that of Paragraph (d) of Section [5.5.18] of the programs and manuals section of the Standard Technical Specifications (STSs) as modified by Revision 3 of TSTF-448.

   RESPONSE:

   Turkey Point performs yearly recirculation flow tests at 1000 cfm +/- 10% in accordance with the current Technical Specification (TS) Surveillance Requirement 4.7.5.d. In addition, in accordance with proposed TS 6.8.4.k.d submitted by Reference 1, control room boundary envelope tests will be conducted every 36 months on a staggered test basis by dividing the specified test interval for two redundant components into two equal subintervals and testing one of the components at the beginning of each subinterval. The proposed revised TS 6.8.4.k.d requires measuring CRE pressure relative to external areas adjacent to the CRE boundary in accordance with the TSTF-448 Revision 3, TS 5.5.18.d. In response to this RAI and in accordance with TSTF-448 Revision 3, Attachment 2 page 6 of 6 includes the proposed revised wording for TS 6.8.4.k.d which states that the

room boundary envelope test data will be trended and utilized in the CRE boundary assessment to be performed every 18 months.

2. RAI: On page 2 of 7 to address the issue of chemical and smoke hazards, FPL proposed that TS Action 3.7.5.b address the issue as follows:

   "Verify mitigating actions ensure CRE occupant radiological exposures will not exceed limits, and CRE occupants are protected from chemical hazards and smoke."

   The above language was proposed in TSTF-508 Revision 1, "Revise Control Habitability Actions to Address Lessons Learned from TSTF-448 implementation," and by letter dated May 11, 2011, TSTF-508 was withdrawn. To be consistent with the intent of TSTF-448, Revision 3, acceptable wording is, "verify mitigating actions ensure CRE occupant radiological and chemical hazards will not exceed limits, and CRE occupants are protected from smoke hazards." In order to be consistent with the intent of TSTF-448, the NRC staff is requesting that FPL provide acceptable wording for TS Action 3.7.5.b.

   RESPONSE:

   The Turkey Point submittal took exceptions similar to those taken by Perry, Beaver Valley, and Prairie Island relative to limits for toxic gas and smoke. Prairie Island (ML053040350) and Beaver Valley (ML080370172) have been approved by the NRC. Turkey Point was not designed to the Standard Review Plan, and therefore is not committed to Regulatory Guide 1.78 or 1.95 limits as noted in FPL letter L-2003-299 dated December 9, 2003, which responded to Generic Letter 2003-01 on Control Room Habitability. UFSAR Sections 9.6A and 9.9.1 describe contingency measures to address CRE occupant exposure to toxic gas and smoke including the use of self contained breathing apparatus and actuation of the Control Room Emergency Ventilation System (manual and automatic). The proposed TS Action 3.7.5.b submitted by Reference 1was revised to clarify that Turkey Point will ensure CRE occupant exposures to radiological hazards will not exceed limits and CRE occupants are protected from chemical and smoke hazards. Attachment 2, Insert 1 reflects the revised wording.

3. RAI:

   On page 4 of 7 it states, "For line item c of the TS 6.8.4.k Control Room Envelope Habitability Program elements, TSTF-448 recognizes that there may be plant-specific exceptions to the guidance for performance of the unfiltered air inleakage test. FPL identified the need for such an exception for Turkey Point based on its review of Sections

C.1 and C.2 of Regulatory Guide 1.197, Revision 0, and the exception is included in the proposed amendment, which reads as follows:

> 'Appropriate application of ASTM E741 shall include the ability to take minor exceptions to the test methodology. These exceptions shall be documented in the test report.'

The NRC staff's position is that it is indeed acceptable to document exceptions to a test methodology in a test report. However, including unidentified exceptions in the TSs is not consistent with TSTF-448 Revision 3. The NRC staff requests that the licensee remove the proposed language, as stated above, from your request to adopt TSTF-448.

RESPONSE:

The Turkey Point wording in TS 6.4.8.k regarding test exceptions to a test methodology has been deleted as requested by the NRC. The revised proposed TS 6.4.8.k.c is reflected in Insert 2 of Attachment 2.

4. RAI:

On page 4 of 7, it states that in order to be consistent with line item (c) of the CRE Habitability Program elements, the proposed wording in the last sentence of line item d for the TS 6.4.8.k program elements is changed slightly from the wording in TSTF-448. The licensee proposed that the last sentence of line item d of the TS 6.4.8.k program elements reads, "The results shall be trended and used as part of the periodic assessment of the CRE boundary." The NRC staff has determined that the proposed change to line item d is not consistent with the intent of TSTF-448. However, an acceptable compromise to the words in TSTF-448 Revision 3 is, "the results shall be trended and assessed every [18] months". In order to be in compliance with the intent of TSTF-448 the NRC staff is requesting that FPL revise the requested amendment to include these suggested words.

RESPONSE:

Turkey Point agrees to revise the proposed words to indicate that the results shall be trended and assessed every 18 months. The proposed revised wording for TS 6.4.8.k.d is included in Attachment 2, Insert 2.

5. RAI:

The NRC staff is requesting that the TS bases be updated to be consistent with TSTF-448 Revision 3.

RESPONSE:

Turkey Point has reviewed TSTF-448 Revision 3 TS bases and determined that the proposed TS bases submitted by Reference 1 are consistent with TSTF-448 Revision 3. However, the structure of the Turkey Point TS bases and the CREVS design features are different from those for which TSTF-448, Revision 3 TS bases were written. Turkey Point design does not include a toxic gas detection system, independent and redundant CREVS trains, and does not have a separate Ventilation Filter Testing Program. In addition, the Turkey Point TS are based on an older Standard TS format. Turkey Point has revised the proposed TS bases submitted by Reference 1 by adding clarifying statements consistent with TSTF-448 Revision 3. The TS bases changes are denoted by change bars in Attachment 3 of this letter.

Technical Specification Change Markups

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Page 6-18b

PLANT SYSTEMS

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5 The Control Room Emergency Ventilation System shall be OPERABLE*

APPLICABILITY: All MODES.

ACTION: for reasons other than an inoperable CRE boundary, immediately

MODES 1, 2, 3 and 4: irradiated

a. With the Control Room Emergency Ventilation System inoperable, suspend all movement of fuel in the spent fuel pool and restore the inoperable system to OPERABLE status within 84 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. If this ACTION applies to both units simultaneously, be in HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours.

Insert 1

MODES 5 and 6: irradiated

c. With the Control Room Emergency Ventilation System inoperable, suspend all operations involving CORE ALTERATIONS, movement of fuel in the spent fuel pool, or positive reactivity changes. This ACTION shall apply to both units simultaneously.

SURVEILLANCE REQUIREMENTS

4.7.5 The Control Room Emergency Ventilation System shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 120°F;

b. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes;

c. At least once per 18 months or (1) after 720 hours of system operation, or (2) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (3) following operational exposure of the filters to effluents from painting, fire, or chemical release in any ventilation zone communicating with the system, or (4) after complete or partial replacement of a filter bank by:

*The Control Room Envelope (CRE) boundary may be opened intermittently under administrative control.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

1) Verifying that the air cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of greater than or equal to 99% DOP and halogenated hydrocarbon removal at a system flow rate of 1000 cfm ±10%.

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, and analyzed per ASTM D3803 - 1989 AT 30°C and 95% relative humidity, meets the methyl iodide penetration criteria of less than 2.5% or the charcoal be replaced with charcoal that meets or exceeds the stated performance requirement, and

3) Verifying by a visual inspection the absence of foreign materials and gasket deterioration.

d. At least once per 12 months by verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the system at a flow rate of 1000 cfm ±10%;

e. At least once per 18 months by verifying that on a Containment Phase "A" Isolation test signal the system automatically switches into the recirculation mode of operation.

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

~~Note: Add'l TS 3/4.7.5 changes pending per 5/21/2010 FPL Letter L-2010-083 (Accession No. ML101450028)~~

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

d. Provisions for SG tube inspections. Periodic SG tube inspections shall be performed. The number and portions of the tubes inspected and methods of inspection shall be performed with the objective of detecting flaws of any type (e.g., volumetric flaws, axial and circumferential cracks) that may be present along the length of the tube, from the tube-to-tubesheet weld at the tube inlet to the tube-to-tubesheet weld at the tube outlet, and that may satisfy the applicable tube repair criteria. For Unit 3 through Refueling Outage 25 and the next operating cycle, and for Unit 4 during Refueling Outage 25 and the subsequent operating cycles until the next scheduled inspection, the portion of the tube below 17.28 inches from the top of the tubesheet is excluded from inspection. The tube-to-tubesheet weld is not part of the tube. In addition to meeting the requirements of d.1, d.2, and d.3 below, the inspection scope, inspection methods, and inspection intervals shall be such as to ensure that SG tube integrity is maintained until the next SG inspection. An assessment of degradation shall be performed to determine the type and location of flaws to which the tube may be susceptible and, based on this assessment, to determine which inspection methods need to be employed and at what locations.

1. Inspect 100% of the tubes in each SG during the first refueling outage following SG replacement.

2. Inspect 100% of the tubes at sequential periods of 120, 90, and, thereafter, 60 effective full power months. The first sequential period shall be considered to begin after the first inservice inspection of the SGs. In addition, inspect 50% of the tubes by the refueling outage nearest the midpoint of the period and the remaining 50% by the refueling outages nearest the end of the period. No SG shall operate for more than 48 effective full power months or two refueling outages (whichever is less) without being inspected.

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

Insert 2 → e. Provisions for monitoring operational primary-secondary leakage.

6.8.5 DELETED

INSERT 1

b. With the Control Room Emergency Ventilation System inoperable due to an inoperable CRE boundary, immediately suspend all movement of irradiated fuel in the spent fuel pool, initiate action to implement mitigating actions, and within 24 hours, verify mitigating actions ensure CRE occupant exposures to radiological hazards will not exceed limits, and CRE occupants are protected from chemical and smoke hazards, and restore CRE boundary to OPERABLE status within 90 days, or:

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

2. If this ACTION applies to both units simultaneously, be in HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT 2

k. Control Room Envelope Habitability Program

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

The program shall include the following elements:

a. The definition of the CRE and the CRE boundary.

b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.

c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.

~~The following is an exception to Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0:~~

~~Appropriate application of ASTM E741 shall include the ability to take minor exceptions to the test methodology. These exceptions shall be documented in the test report.~~

d. Measurement, at designated locations, of the CRE pressure relative to external areas adjacent to the CRE boundary during the pressurization mode of operation of the CREVS, operating at the flow rate required by Surveillance Requirement 4.7.5.d, at a frequency of 36 months on a STAGGERED TEST BASIS. The results shall be trended and ~~used as part of the~~ the CRE boundary assessed every 18 months.

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

f. The provisions of Specification 4.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

Technical Specification Bases Markups

(Information Only)

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TECHNICAL SPECIFICATION BASES

3/4.7.4 Ultimate Heat Sink

The limit on ultimate heat sink (UHS) temperature in conjunction with the SURVEILLANCE REQUIREMENTS of Technical Specification 3/4.7.2 will ensure that sufficient cooling capacity is available either: (1) To provide normal cooldown of the facility, or (2) To mitigate the effects of accident conditions within acceptable limits.

FPL has the option of monitoring the UHS temperature by monitoring the temperature in the ICW system piping going to the inlet of the CCW heat exchangers. Monitoring the UHS temperature after the ICW but prior to CCW heat exchangers is considered to be equivalent to temperature monitoring before the ICW pumps. The supply water leaving the ICW pumps will be mixed and therefore, it will be representative of the bulk UHS temperature to the CCW heat exchanger inlet. The effects of the pump heating on the supply water are negligible due to low ICW head and high water volume. Accordingly, monitoring the UHS temperature after the ICW pumps but prior to the CCW heat exchangers provides an equivalent location for monitoring the UHS temperature.

With the implementation of the CCW heat exchanger performance monitoring program, the limiting UHS temperature can be treated as a variable with an absolute upper limit of 100°F without compromising any margin of safety. Demonstration of actual heat exchanger performance capability supports system operation with postulated canal temperatures greater than 100°F. Therefore, an upper Technical Specification limit of 100°F is conservative.

3/4.7.5 Control Room Emergency Ventilation System (CREVS)

The OPERABILITY of the Control Room Emergency Ventilation System envelope (CRE) ensures that: (1) The ambient air temperature does not exceed the allowable temperature for continuous-duty rating for the equipment and instrumentation cooled by this system, and (2) The control room will remain habitable for ~~operations personnel~~ occupants during and following ~~all credible accident conditions~~ an uncontrolled release of radioactivity, hazardous chemicals, or smoke. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the ~~control room to 5 rems or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix A, 10 CFR Part 50.~~ Insert 3

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ATTACHMENT 1
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TECHNICAL SPECIFICATION BASES

3/4.7.5 (Cont'd) CREVS

The ~~Control Room Emergency Ventilation System~~ is considered to be OPERABLE (Ref: JPN–PTN–SENP-92-017) when 1) Three air handling units (AHUs) (one of each of the three air conditioning units) are operable, 2) Two condensing units (two out of three available condensers) are operable, 3) One recirculation filter unit is operable, 4) Two recirculation fans operable, and 5) Associated dampers are operable. The reason three AHUs are required is that in the event of a single failure, only two AHUs would be available to supply air to the suction of the recirculation filter and fan. This is the configuration tested to support Technical Specification operability for flow through the emergency charcoal filter. Taking one AHU out of service renders the system incapable of operating in accordance with the tested configuration assuming an accident and a single failure (i.e., only one air handling unit available instead of the two assumed by the analysis). Any one of the three condensing (air conditioning) units is capable of maintaining the control room equipment within its environmental limits for temperature and humidity. Thus, one condensing unit can be taken out of service without impacting the ability of the ~~Control Room Emergency Ventilation System~~ CREVS to accomplish its intended function under single failure conditions.

System components are not subject to rapid deterioration, having lifetimes of many years, even under continuous flow conditions. Visual inspection and operating tests provide assurance of system reliability and will ensure early detection of conditions which could cause the system to fail or operate improperly. The filters performance tests prove that filters have been properly installed, that no deterioration or damage has occurred, and that all components and subsystems operate properly. The in-situ tests are performed in accordance with the methodology and intent of ANSI N510 (1975) and provide assurance that filter performance has not deteriorated below returned specification values due to aging, contamination, or other effects. Charcoal samples are tested using ASTM D3803-1989 in accordance with Generic Letter 99-02. The test conditions (30°C and 95% relative humidity) are as specified in the Generic Letter. Table 1 of the ASTM standard provides the tolerances that must be met during the test for each test parameter. The specified methyl iodide penetration value is based on the assumptions used in the LOCA Analysis.

Insert 4

3/4.7.6 Snubbers

All snubbers are required OPERABLE to ensure that the structural integrity of the Reactor Coolant System and all other safety-related systems is maintained during and following a seismic or other event initiating dynamic loads.

The visual inspection frequency is based upon maintaining a constant level of snubber protection to each safety-related system during an earthquake or severe transient. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule.

~~Note: Add'l TS 3/4.7.5 Bases changes pending per 5/21/2010 FPL Letter L-2010-083 (Accession No. ML101450028)~~

INSERT 3

CRE to 5 rem whole body or its equivalent to any part of the body or 5 rem total effective dose equivalent (TEDE), as applicable, for the duration of the accident. These limits are consistent with the requirements of 10 CFR Part 50, Appendix A, General Design Criterion 19 and 10 CFR Part 50.67, respectively.

INSERT 4

Turkey Point Units 3 and 4 share a common CRE. The CRE is the area within the confines of the CRE boundary that contains the spaces that control room occupants inhabit to control the units during normal and accident conditions. This area encompasses the control room, including the control room offices, rack area, kitchen and lavatory, and the mechanical equipment room (MER) located below the control room. The MER contains the CREVS equipment. The CRE is protected during normal operation, natural events, and accident conditions. The CRE boundary is the combination of walls, floor, roof, ducting, doors, penetrations, and equipment that physically form the CRE. The OPERABILITY of the CRE boundary must be maintained to ensure that the inleakage of unfiltered air into the CRE will not exceed the inleakage assumed in the licensing basis analysis of design basis accident (DBA) consequences, and that CRE occupants are protected from hazardous chemicals and smoke. The CRE and its boundary are defined in the Control Room Envelope Habitability Program.

The location of CREVS components and ducting within the CRE ensures an adequate supply of filtered air to all areas requiring access. The CREVS filter train provides airborne radiological protection for the CRE occupants, as demonstrated by occupant dose analyses for the most limiting design basis accident fission product release presented in the UFSAR, Chapter 14.

The CREVS provides protection from smoke and hazardous chemicals to the CRE occupants. The CREVS pressurizes the CRE relative to external areas adjacent to the CRE boundary. The analysis of hazardous chemical releases for NUREG-0737 Item III.D.3.4, "Control Room Habitability Requirement," and the subsequent reanalysis included in PC/M 06-004, "Addition of Unit 5 to the Turkey Point Site," for new chemical release hazards demonstrate that the toxicity limits are not exceeded in the CRE following a hazardous chemical release. Therefore, neither automatic nor manual actuation of the CREVS is required for an analyzed hazardous chemical release. The analysis of a smoke challenge demonstrates that it will not result in the inability of the CRE occupants to control the reactors either from the control room or from the alternate shutdown panels.

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

protected from hazardous chemicals and smoke. With respect to radiological emergencies, the CREVS is designed as a single filtration train that is capable of automatically starting under accident conditions to initiate CRE pressurization and filtration, assuming the occurrence of a single active damper or supply fan failure. For other emergencies that could affect the CRE environment, the CREVS is capable of manual actuation. CREVS is further described in UFSAR Section 9.9.

The LCO is modified by a Note allowing the CRE boundary to be opened intermittently under administrative controls. This Note only applies to openings in the CRE boundary that can be rapidly restored to the design condition, such as doors, hatches, floor plugs, and access panels. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls should be proceduralized and consist of stationing a dedicated individual at the opening who is in continuous communication with the operators in the CRE. This individual will have a method to rapidly close the opening and to restore the CRE boundary to a condition equivalent to the design condition when a need for CRE isolation is indicated.

The CREVS must be OPERABLE to ensure that the CRE will remain habitable to limit operator exposure during and following a DBA. Since the CREVS and CRE are common to both Turkey Point Units 3 and 4, the ACTION requirements are applicable to both units simultaneously, and must be applied according to each unit's operational MODE.

If the unfiltered inleakage of potentially contaminated air past the CRE boundary and into the CRE can result in CRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem whole body or its equivalent to any part of the body or 5 rem total effective dose equivalent – TEDE, as applicable) or inadequate protection of CRE occupants from hazardous chemicals or smoke, the CRE boundary is inoperable. Actions must be taken to restore an OPERABLE CRE boundary within 90 days when in MODE 1, 2, 3, or 4.

During the period that the CRE boundary is considered inoperable in MODE 1, 2, 3, or 4, immediately initiate action to implement mitigating actions to lessen the effect on CRE occupants from the potential hazards of a radiological or chemical event or a challenge from smoke. Actions must be taken within 24 hours to verify that in the event of a DBA, the mitigating actions will ensure that CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke. Previous surveys of offsite and onsite chemicals identified that no hazardous chemicals present a hazard to control room habitability. Therefore, the mitigating action for chemical hazards may verify that the chemical hazards analyses are current and require no toxic gas protection for the CRE occupants. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable CRE boundary) should be preplanned for implementation upon entry into the condition, regardless of whether

entry is intentional or unintentional. The 24 hour allowable outage time (AOT) is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90 day AOT 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 reactors and maintain them in a safe shutdown condition in the event of a DBA. In addition, the 90 day AOT is a reasonable time to diagnose, plan and possibly repair, and test most problems with the CRE boundary.

In MODE 1, 2, 3, or 4, if the inoperable CREVS or the CRE boundary cannot be restored to OPERABLE status within the associated required AOT, the unit must be placed in a MODE that minimizes the accident risk. To achieve this status, the unit must be placed in at least MODE 3 (HOT STANDBY) within 6 hours, and in MODE 5 (COLD SHUTDOWN) within 36 hours. If the inoperability applies to both units simultaneously, be in MODE 3 within 12 hours, and in MODE 5 within 42 hours. The AOTs are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

In MODE 5 or 6, with the CREVS inoperable for an inoperable CRE boundary or for other reasons, action must be taken immediately to suspend all operations that could result in a release of radioactivity that might require isolation of the CRE, such as movement of irradiated fuel. This places the unit in a condition that minimizes the accident risk. This does not preclude the movement of fuel to a safe position. These ACTION requirements apply to both units simultaneously.

Surveillance Requirement (SR) 4.7.5.f verifies the OPERABILITY of the CRE boundary by testing for unfiltered air inleakage past the CRE boundary and into the CRE. The details of the testing are specified in the Control Room Envelope Habitability Program.

The CRE is considered habitable when the radiological dose to CRE occupants calculated in the licensing basis analyses of DBA consequences is no more than 5 rem whole body or its equivalent to any part of the body or 5 rem TEDE, as applicable, and the CRE occupants are protected from hazardous chemicals and smoke. SR 4.7.5.f verifies that the unfiltered air inleakage into the CRE is no greater than the flow rate assumed in the licensing basis analyses of DBA consequences. When unfiltered air inleakage is greater than the assumed flow rate, ACTION b must be entered (ACTION c must also be entered with a unit in MODE 5 or 6). ACTION b allows time to restore the CRE boundary to OPERABLE status provided mitigating actions are taken while in MODES 1-4, that ensures that the CRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, Section C.2.7.3, which endorses, with exceptions, NEI 99-03 (June 2001), Section 8.4 and Appendix F. These compensatory measures may also be used as mitigating actions as required by ACTION b. Temporary analytical methods may also be used

as compensatory measures to restore OPERABILITY, as discussed in a letter from Eric J. Leeds (NRC) to James W. Davis (NEI) dated January 30, 2004, "NEI Draft White Paper, Use of Generic Letter 91-18 Process and Alternative Source Terms in the Context of Control Room Habitability" (ADAMS Accession No. ML040300694). Options for restoring the CRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the CRE boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope inleakage test may not be necessary to establish that the CRE boundary has been restored to OPERABLE status.