Florida Power & Light Company, 9760 S.W. 344 St. Homestead, FL 33035

OCT 27 2011

L-2011-380
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
Responses to NRC Questions and LAR 194 Changes
(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, Accession No. ML102010386, July 16, 2010.

2) Email from J. Paige (NRC) to Bob Tomonto (FPL), "Requests for Additional Information," Accession No. ML11167A291, June 16, 2011.

3) M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2011-264), "License Amendment Request (LAR 194) – Control Room Habitability TSTF-448 Requests for Additional Information, System (TAC Nos. ME0004 and ME0005)," Accession No. ML11202A021, July 18, 2011.

4) M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2011-276), "Supplemental Response Regarding LAR 194, Control Room Habitability TSTF-448, and Changes to Technical Specification 3.7.5, Control Room Emergency Ventilation System (TAC Nos. ME0004 and ME0005)," Accession No. ML11215A013, August 1, 2011.

5) J. Paige (NRC) to M. Nazar (FPL), "Turkey Point Units 3 and 4, Issuance of Amendments Regarding Alternative Source Term (TAC Nos. ME1624 and ME1625)," Accession No. ML110800666, June 23, 2011.

6) Email from J. Paige to Bob Tomonto (FPL), "Acceptable Wording for TSTF-448, a.5" . September 6, 2011

7) Email from J. Paige (NRC) to Bob Tomonto (FPL), "Requests for Additional Information, Round 2" Accession No. ML11273A003, September 29, 2011

By letter L 2010-004 dated July 16, 2010 [Reference 1], Florida Power and Light (FPL) Company requested an amendment to Renewed Facility Operating Licenses DPR-31 and DPR-41 for Turkey Point Units 3 and 4 Technical Specifications (TS). The proposed amendment would modify the TS requirements for 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 a Request for Additional Information (RAI) 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). The responses to these five questions were provided in FPL letter L-2011-264 dated July 18, 2011 [Reference 3] and supplemented by FPL letter L-2011-276 dated August 1, 2011 [Reference 4]

A102
NRR

which recognized the NRC's issuance of Amendments 244 and 240 for Alternative Source Term on June 23, 2011 [Reference 5].

On September 2, 2011, a telephone conference call was held between the NRC and FPL Turkey Point representatives regarding the responses provided. The NRC representatives included Mr. Jason Paige (NRC Turkey Point Project Manager) and Mr. Harold Walker of the NRC Staff Containment and Ventilation Branch.

References 6 and 7 were sent by the NRC to FPL providing additional direction concerning the information needed from FPL. Attachment 1 to this letter provides revised responses to the NRC RAI questions. Attachments 2 and 3 provide proposed revisions to the Turkey Point Technical Specifications and Bases as a result of the RAI questions and FPL responses with change bars to indicate the proposed changes.

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

This submittal contains no new commitments and no revisions to existing 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 October 27, 2011.

Very truly yours,

Michael Kiley
Vice President
Turkey Point Nuclear Plant

Attachments (2)

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

Attachment 1

NRC Request for Additional Information – Round 2
and FPL Responses

NRC REQUEST FOR ADDITIONAL INFORMATION – ROUND 2 and FPL RESPONSES

Responses to the NRC Request for Additional Information (RAI) - Round 2 [Reference 7] are provided below. The responses to the three RAI questions impact the previously submitted proposed Technical Specification and Bases changes. These changes are provided in Attachments 2 and 3.

NRC RAI Question No. 1: With respect to the agreed upon clarification, it is the NRC staff's understanding that the typical use of the phrase, "testing on the staggered test basis", refers to testing systems that contain two or more redundant trains of equipment where the redundant trains are to be tested on a staggered test basis. However, in accordance with your response to the staff's request for additional information dated July 18, 2011, we understand that you will be testing redundant components of a single train every 36 months on a staggered test basis.

You referred to Technical Specification (TS) Surveillance Requirement (SR) 4.7.5.d as the basis for the Turkey Point yearly recirculation test. Currently, it appears that the only purpose of SR 4.7.5.d is to test the pressure drop across the HEPA filter and charcoal absorber every 12 months at a flow rate of 1000 cfm ± 10%. We believe it should be made clear that SR 4.7.5.d has the additional functions of testing components on a staggered test basis and measuring CRE pressure relative to external areas adjacent to the CRE boundary. It is not clear that measuring the flow rate and pressure drop every 12 months is consistent with every 36 months on a staggered test basis (i.e. one component every 18 months).

FPL RESPONSE/JUSTIFICATION: FPL agreed to clarify the staggered testing to be performed in accordance with the NRC's request. The proposed Technical Specification Procedures and Program Section 6.8.4.k, as amended, provides this clarification.

In addition, the proposed Technical Specification Surveillance Requirement 4.7.5.d has been revised to add the additional functions of testing components on a staggered test basis and measuring CRE pressure relative to external areas adjacent to the CRE boundary.

TS Change: TS Surveillance Requirement 4.7.5.d

Current TS

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%***;

Proposed TS

d.1 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%***;

d.2 On a staggered test basis every 36 months, test the supply fans (trains A and B) and measure CRE pressure relative to external areas adjacent to the CRE boundary.

See TS Surveillance Requirement 4.7.5.d.2 markup in Attachment 2.

NRC RAI Question No. 2: As committed during the September 2, 2011, call, provide acceptable language consistent with the intent of TSTF-448, Revision 3 regarding chemical and smoke hazards. The suggested wording, "verify mitigating actions ensure CRE occupant radiological and chemical hazards will not exceed limits, and CRE occupants are protected from smoke hazards," in the NRC staff's RAI dated June 16, 2011, is considered acceptable.

FPL RESPONSE/JUSTIFICATION: FPL agreed to revise the wording as suggested by the NRC and therefore has revised proposed Technical Specification 3.7.5.b.

TS Change: TS Action 3.7.5.b

Current Proposed TS Action 3.7.5.b (Reference 3)

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

Revised Proposed TS Action 3.7.5.b

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

See TS Action 3.7.5.b markup in Attachment 2.

NRC RAI Question No. 3: Additionally, the reviewer suggested making the basis for TS 3.7.5 consistent with the TS language... "...within 42 hrs" vs. "...within 12 hrs and in cold shutdown within the following 30 hours," and revise the a.5 language regarding specifically calling out mitigating action (acceptable language in an email dated September 6th).

FPL RESPONSE/JUSTIFICATION: FPL agreed to review the basis language and make it consistent with the TS language. Note the a.5 TS language does not include 42 hours; rather the hours allowed to be in hot standby (6 hours for one unit and 12 hours if both units are affected) and cold shutdown within the following 30 hours. Therefore, no change is proposed to action a.5.

****

Additional TS Change

TS Change: TS Action 3.7.5.a.5

The changes to TS 3.7.5 Action a.5 proposed in FPL letter L-2011-276 [Reference 4] were revised based on the September 2, 2011 meeting and the specific language recommended in Reference 6.

Current TS

a.5 With the filter train inoperable, e.g., an inoperable filter, and/or two inoperable recirculation fans, and/or two inoperable recirculation dampers, immediately suspend all movement of irradiated fuel, and, immediately, initiate action to implement mitigating actions, and, within 24 hours, verify mitigating actions ensure control room occupant radiological exposures will not exceed limits and, within 7 days, restore the filter train to OPERABLE status.

Proposed TS

a.5 With the filter train inoperable, e.g., an inoperable filter, and/or two inoperable recirculation fans, and/or two inoperable recirculation dampers, immediately suspend all movement of irradiated fuel, and, immediately, initiate action to implement mitigating actions **[e.g., use of the compensatory filtration unit is required to be immediately initiated]**, and, within 24 hours, verify mitigating actions ensure control room occupant radiological exposures will not exceed limits and, within 7 days, restore the filter train to OPERABLE status.

See TS Action 3.7.5.a.5 markup in Attachment 2.

Attachment 2

Technical Specification Markups

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* with:

a. Three air handling units,

b. Two of three condensing units,

c. Two control room recirculation fans,

d. Two recirculation dampers,

e. One filter train,

f. Two isolation dampers in the normal outside air intake duct,

g. Two isolation dampers in the emergency outside air intake duct,

h. Two isolation dampers in the kitchen area exhaust duct, and

i. Two isolation dampers in the toilet area exhaust duct.

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3 and 4:

a.1 With one air handling unit inoperable, immediately suspend all movement of irradiated fuel and, within 7 days, restore the inoperable air handling unit to OPERABLE status 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.

a.2 With two condensing units inoperable, immediately suspend all movement of irradiated fuel and, within 7 days, restore at least one of the inoperable condensing units to OPERABLE status 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.

a.3 With one recirculation fan inoperable, immediately suspend all movement of irradiated fuel and, within 7 days, restore the inoperable fan to OPERABLE status 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.

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

PLANT SYSTEMS

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION (continued)

a.4 With one recirculation damper inoperable, immediately suspend all movement of irradiated fuel and, within 7 days, restore the inoperable damper to OPERABLE status or place and maintain at least one of the recirculation dampers in the open position and place the system in recirculation mode** 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.

a.5 With the filter train inoperable, e.g., an inoperable filter, and/or two inoperable recirculation fans, and/or two inoperable recirculation dampers, immediately suspend all movement of irradiated fuel, and, immediately, initiate action to implement mitigating actions, and, within 24 hours, verify mitigating actions ensure control room occupant radiological exposures will not exceed limits and, within 7 days, restore the filter train to OPERABLE status.

With the above requirements not met, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. If this ACTION applies to both units simultaneously, be in HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours. [e.g., use of the compensatory filtration unit is required to be immediately initiated].

a.6 With an inoperable damper in the normal outside air intake, immediately suspend all movement of irradiated fuel and, within 7 days, restore the inoperable damper to OPERABLE status or place and maintain at least one of the normal outside air intake isolation dampers in the closed position and place the system in recirculation mode** 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.

a.7 With an inoperable damper in the emergency outside air intake, immediately suspend all movement of irradiated fuel and, within 7 days, restore the inoperable damper to OPERABLE status or place and maintain at least one of the emergency outside air intake isolation dampers in the open position** 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.

a.8 With an isolation damper inoperable in the kitchen area exhaust duct, immediately suspend all movement of irradiated fuel and, within 7 days, restore the inoperable damper to OPERABLE status or isolate the flow path** 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.

a.9 With an isolation damper inoperable in the toilet area exhaust duct, immediately suspend all movement of irradiated fuel and, within 7 days, restore the inoperable damper to OPERABLE status or isolate the flow path** 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.

**If action is taken such that indefinite operation is permitted and the system is placed in recirculation mode, then movement of irradiated fuel may resume.

PLANT SYSTEMS

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION (continued)

Insert 1

MODES 5 and 6:

c. With the Control Room Emergency Ventilation System inoperable, suspend all operations involving CORE irradiated ALTERATIONS, movement of fuel in the spent fuel pool, or positive reactivity changes immediately. 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 exposure of the filters to effluents from painting, fire, or chemical release in any ventilation zone communicating with the system that may have an adverse effect on the functional capability of the system, or (4) after complete or partial replacement of a filter bank by:

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.1 → 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, , and

f. At least once per 18 months by verifying operability of the kitchen and toilet area exhaust dampers.

d.2 On a staggered test basis every 36 months, test the supply fans (trains A and B) and measure CRE pressure relative to external areas adjacent to the CRE boundary.

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

***As the mitigation actions of TS 3.7.5 Action a.5 may include the use of the compensatory filtration unit, the unit shall meet the surveillance requirements of TS 4.7.5.b, by manual initiation from outside the control room and TS 4.7.5.c and d.

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, and immediately initiate action to implement mitigating actions, and within 24 hours, verify mitigating actions ensure CRE occupant radiological and chemical hazards will not exceed limits, and CRE occupants are protected from 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 total effective dose equivalent (TEDE) for the duration of the accident.

The program shall include the following elements:

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

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

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

d. Measurement, at designated locations, of the CRE pressure relative to 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 18 months. Additionally, the supply fans (trains A and B) will be tested on a staggered test basis (defined in Technical Specification definition 1.29 every 36 months. The results shall be trended and 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.

Attachment 3

Technical Specification Bases Markups

(Information Only)

ATTACHMENT 1
(Page 90 of 114)

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.

[envelope (CRE)] [occupants] [(CREVS)]

3/4.7.5 Control Room Emergency Ventilation System

The OPERABILITY of the Control Room Emergency Ventilation System 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~~ during and following ~~all credible accident conditions~~. 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]

[an uncontrolled release of radioactivity, hazardous chemicals, or smoke.]

Procedure No.:	Procedure Title:	Page: 102
0-ADM-536	Technical Specification Bases Control Program	Approval Date: 6/14/11

ATTACHMENT 1
(Page 91 of 114)

TECHNICAL SPECIFICATION BASES

3/4.7.5 (Cont'd)

~~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 to accomplish its intended function under single failure conditions.~~

Insert 4 →

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 5 →

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.

INSERT 3

CRE to 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The radiological limits are consistent with the requirements of 10 CFR Part 50.67. CRE occupants are protection from chemical hazards in accordance with the limits of Regulatory Guide 1.78.

INSERT 4

The Control Room Emergency Ventilation System (CREVS) is considered to be OPERABLE (Ref: JPN_PTN_SENP-92-017) when 1) Three air handling units (AHUs) (three out of three) are operable, 2) Two condensing (air conditioning (A/C)) units (two out of three) are operable, 3) Two recirculation fans are operable, 4) Two recirculation dampers are operable, 5) One recirculation filter unit is operable, 6) Two normal outside air intake dampers are operable, 7) Two emergency outside air intake dampers are operable, 8) Two isolation dampers (one motor-operated damper and one gravity backdraft damper) in the kitchen area exhaust duct are operable, and 9) Two isolation dampers (one motor-operated damper and one gravity backdraft damper) in the toilet area exhaust duct 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 unit. 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 in the analysis. Any one of the three condensing (A/C) units is capable of maintaining control room equipment within environmental limits for temperature and humidity. Thus, one condensing unit can be taken out of service without impacting the ability of CREVS to accomplish its intended function under single failure conditions.

The LCO actions allow inoperability of the redundant active CREVS components (one AHU, two condensing units, one recirculation fan, one recirculation damper, one normal outside air intake damper, and/or one emergency outside air intake damper) for a period of up to 7 days consistent with the approach provided in the Westinghouse Standard Technical Specifications and based on the low probability of occurrence of a Design Basis Accident (DBA) challenging the Control Room Habitability during this time period and the continued capability of the remaining operable system components to perform the required CREVS safety function. When the motor-operated isolation damper in a kitchen or toilet area exhaust duct becomes inoperable, the damper is required to be restored to operability within 7 days or a damper in the flow path be closed (either the motor-operated damper or its associated manual isolation damper) until it can be restored to operability. This 7 day AOT is predicated on continued operability of its associated gravity backdraft damper.

When one damper in the normal outside air intake is inoperable, it can either be restored within 7 days or one of the two in-series dampers closed and CREVS run in recirculation mode. When one recirculation damper is inoperable, it can either be restored or one of the two paralleled dampers opened and the CREVS run in recirculation mode. With one or both

emergency outside air intake dampers inoperable, they can either be restored or opened without adversely impacting the normal or emergency mode of operation. (See TSA 03-03-025-024 for evaluation). The placement of the dampers in their "fail-safe" position in lieu of restoration is allowed as the dampers fail "as-is" in the event of loss of offsite power (except for the emergency outside air intake dampers which go to their emergency "open" position) and are in their emergency mode position in the event of receipt of an emergency actuation signal.

As indicated in LCO footnote, if an action is taken such that indefinite operation is permitted (a.4, a.6, a.7, a.8, a.9) and the system is placed in recirculation mode, then movement of irradiated fuel is allowed. Although still technically in the Action due to component inoperability, system configuration, as modified, satisfies the design requirement to support system emergency operation with ability to withstand a single active failure.

When the filter train is inoperable, e.g., the filter is inoperable, and/or two recirculation fans are inoperable, and/or two recirculation dampers are inoperable, all movement of fuel in the spent fuel pool is required to be immediately suspended and mitigating actions, e.g., use of compensatory filtration unit, are required to be immediately initiated, and, within 24 hours, the mitigating actions are required to be verified to be in place to ensure the control room occupant radiological exposures will not exceed limits, e.g., the compensatory filtration unit is placed into service, and, within 7 days, the inoperable filter train is required to be restored to OPERABLE status. The 24 hour allowance is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions, i.e., compensatory filtration unit. The 7 day AOT is reasonable based on the determination that the mitigating actions will ensure protection of Control Room occupants within analyzed limits. In addition, the 7 day AOT is a reasonable time to diagnose, plan, repair, and test most problems with the inoperable filter train.

The compensatory filtration unit is designed as a manual, safety-related, Seismic Class I backup to the installed system with the same functional and operational capabilities as the installed filter train. In addition, the unit is surveillance tested in accordance with the same requirements as those imposed on the installed filter train per TS 4.7.5.b, c, and d except that the requirements of TS 4.0.1 – 4.0.4 do not apply to the compensatory unit as it is not included in CREVS LCO.

Regarding exposure of the filters to effluents that may have an adverse effect on the functional capability of the system, painting, fire, or chemical releases are considered "not communicating" with the HEPA filter or adsorber if the system is not in operation, the isolation dampers for the system are closed, and there is no pressure differential across the filter housing. This provides reasonable assurance that air is not passing through the filters and adsorbers.

In addition, the CREVS includes the emergency outside air intakes, located beyond the southeast and northeast corners of the Auxiliary Building. The CREVS emergency outside air intakes are considered OPERABLE when: 1) both flow paths are available, 2) have balanced intake flow rates and 3) a flow path capable of drawing outside makeup air from

only the analyzed intake locations. The alternative source term radiological analyses assume both emergency outside air intake flow paths are available with parallel dampers ensuring outside makeup air can be drawn through both intake locations during a design basis accident and a single active failure. These analyses rely on a provision in Regulatory Guide 1.194 Section 3.3.2 that allows a reduction in the atmospheric dispersion factors (X/Qs) for dual intake arrangements with balanced flow rates to one half of the more limiting X/Q value provided the two intakes are not within the same wind direction window for each release / receptor location. Accordingly, any maintenance on the emergency outside intake dampers or associated duct work that would prevent the CREVS from accomplishing these functions would require entering action statement a.7. The provisions of LCO 3.0.6 apply to the surveillance testing required to demonstrate operability of the emergency intake flow paths.

INSERT 5

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 and chemical hazards as well as protecting the CRE occupants from smoke hazards. 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 of Regulatory Guide 1.78 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.

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 total effective dose equivalent – TEDE) 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 TEDE 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.