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L-2010-083
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
Supplement to License Amendment Request (LAR) 196 and 3/24/2010 Request for Additional Information (RAI) Regarding Alternative Source Term (AST)
(TAC NOS. ME1624 and ME1625)

References:

(1) W. Jefferson (FPL) to U.S. Nuclear Regulatory Commission (L-2009-133), "License Amendment Request 196: Alternative Source Term and Conforming Amendment," Accession No. ML092050277, June 25, 2009.

(2) J. Paige (NRC) to M. Nazar, "Turkey Point Units 3 and 4 – Request for Additional Information Regarding Request to Adopt Alternate Source Term (TAC Nos. ME1624 and ME1625)," Accession No. ML100700446, March 24, 2010

(3) M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2010-065), "Response to Request for Additional Information (RAI) Regarding Alternative Source Term (AST) License Amendment Request (LAR) 196 (TAC Nos. ME1624 and ME1625)," Accession No. ML101090027, April 14, 2010.

By letter L-2009-133 dated June 25, 2009 [Reference 1], Florida Power and Light (FPL) requested to amend Facility Operating Licenses DPR-31 and DPR-41 and revise the Turkey Point Units 3 and 4 Technical Specifications (TS). The proposed amendments revise the TS to adopt the alternative source term (AST) as allowed in 10 CFR 50.67.

Additional information was requested by the NRC staff by letter dated March 24, 2010 [Reference 2]. On April 14, 2010, FPL provided its response [Reference 3] with a commitment to submit a supplemental response no later than May 21, 2010 addressing revised offsite radiological dose consequences and proposed changes to Technical Specification (TS) 3/4.7.5 on Control Room Emergency Ventilation System (CREVS). The radiological dose consequence analyses are being re-performed using revised meteorological data for 2005-2009. The revised meteorological data for 2005-2009 will be submitted no later June 11, 2010 and a revised radiological dose consequences report will be provided upon completion of the analyses currently scheduled for early July 2010. This supplemental response specifically addresses the proposed changes to TS 3/4.7.5 on CREVS and is provided in the Attachment to this letter.

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

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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 determined that the proposed changes do not involve a significant hazards consideration. Also, the proposed changes do not alter the environmental assessment previously submitted by FPL letter L-2009-133 [Reference 1].

This letter 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 May 21, 2010.

Very truly yours,

Michael Kiley
Site Vice President
Turkey Point Nuclear Plant

Attachment

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

Attachment

Supplement to License Amendment Request (LAR) 196 and
3/24/2010 Request for Additional Information (RAI)
Regarding Alternative Source Term (AST)

Response to Request for Additional Information

The following information is provided by Florida Power & Light (FPL) in response to the Nuclear Regulatory Commission's (NRC) Request for Additional Information (RAI). This information was requested to support License Amendment Request (LAR) 196, "Alternative Source Term (AST) and Conforming Amendment," submitted by FPL letter L-2009-133 dated June 25, 2009 [Reference 1].

On March 24, 2010, FPL received a letter [Reference 2] from the NRC Project Manager (PM) containing a set of twenty RAIs from the Accident Dose Branch and the Containment and Ventilation Branch on AST LAR 196. On April 14, 2010, FPL provided its response [Reference 3] to the questions with a commitment to provide a supplemental response by no later than May 21, 2010 addressing revised offsite radiological dose consequences and proposed changes to Technical Specification (TS) 3/4.7.5 Control Room Emergency Ventilation System (CREVS). These revised offsite dose consequences were to reflect the "rebinning" of the site meteorological data that was performed in accordance with the NRC recommendations provided in Regulatory Issues Summary (RIS) 2006-04, Experience with Implementation of Alternative Source Terms. The proposed TS changes were to respond to concerns expressed by the NRC regarding the adequacy of the existing TS language when applied to the CREVS as currently configured (RAI #20).

On April 26, 2010, FPL received an email [Reference 4] from the NRC PM containing a follow-up question from the NRC Accident Dose Branch related to FPL's response to RAI #8 on the implementation of TSTF-490, "Deletion of E Bar Definition and Revision of RCS Specific Activity TS [TS 3.9.8]". On May 4, 2010, FPL received another email [Reference 5] from the NRC PM containing five additional follow-up questions to RAI #11 from the NRC Accident Dose Branch related to the quality of the meteorological data used in support AST LAR 196. The supplemental information related to RAIs # 8, #11, and #20 are documented below.

1. ***Re: RAI #8, a follow-up question was received requesting that FPL provide additional information describing what methods, procedures, etc. are in place to ensure that LCO 3.4.8 will not be exceeded in all the applicable modes given that the SR is stated as only being applicable in mode one.***

   Although the TS Surveillance Requirement (SR) 4.4.8 does not explicitly require the SR to be performed in MODES 2, 3, and. 4, the surveillance requirement is still required to be met during the Modes of Applicability (MODES 1, 2, 3, and 4) in accordance with LCO 3.0.1. Although Dose Equivalent (DEQ) Xe-133 is not measured for thermal power changes, DEQ I-131 is, however, measured during thermal power changes greater than 15%. If at any time during MODES 1 through 4 there is information or plant indication that LCO 3.4.8 may not be met, the SR would be performed to ensure that there is not a failure to meet the LCO.

   However, after review of recent TSTF-490 submittals for North Anna, Three Mile Island, and Kewaunee and after additional discussion with the NRC regarding the surveillance requirement, FPL agrees to revise the applicable modes in which sampling and analysis is required in Table 4.4-4 from MODE 1 to MODES 1, 2, 3, and 4 for Items 3 and 5 on Dose Equivalent I-131 and Dose Equivalent Xe-133, respectively. This change will provide explicit requirements and clear direction to the operating staff. Thus, the surveillance will be explicitly required to be performed

during the Modes of Applicability (MODES 1, 2, 3, and 4), which will ensure the potential consequences of a steam line break or steam generator tube rupture are bounded by the approved accident analyses. See Figure 1 for proposed changes to TS Table 4.4-4.

TS Change: TS Table 4.4-4

Current (as previously submitted in LAR 196)

TABLE 4.4-4 REACTOR COOLANT SPECIFIC ACTIVITY SAMPLE AND ANALYSIS PROGRAM

Type of Measurement and Analysis:	Item 3 Isotopic Analysis for DOSE EQUIVALENT I-131
Sample and Analysis Frequency:	a) 1 per 14 days, and b) One sample between 2 and 6 hours following a THERMAL POWER change exceeding 15% of the RATED THERMAL POWER within a 1 hour period
Modes in which Sample and Analysis Required:	Mode 1
Type of Measurement and Analysis:	Item 5 Isotopic Analysis for DOSE EQUIVALENT XE-133
Sample and Analysis Frequency:	1 per 7 days
Modes in which Sample and Analysis Required:	Mode 1

Proposed

TABLE 4.4-4 REACTOR COOLANT SPECIFIC ACTIVITY SAMPLE AND ANALYSIS PROGRAM

Type of Measurement and Analysis:	Item 3 Isotopic Analysis for DOSE EQUIVALENT I-131
Sample and Analysis Frequency:	a) 1 per 14 days, and b) One sample between 2 and 6 hours following a THERMAL POWER change exceeding 15% of the RATED THERMAL POWER within a 1 hour period
Modes in which Sample and Analysis Required:	**Modes 1, 2, 3, 4**
Type of Measurement and Analysis:	Item 5 Isotopic Analysis for DOSE EQUIVALENT XE-133
Sample and Analysis Frequency:	1 per 7 days
Modes in which Sample and Analysis Required:	**Modes 1, 2, 3, 4**

Justification

This change will provide explicit requirements and clear direction regarding sampling and analysis to the operating staff. The surveillance will be required to be performed during MODES 1, 2, 3, and 4, which will ensure the potential consequences of a steam line break or steam generator tube rupture are bounded by the approved accident analyses.

2. ***Re: RAI #11, five follow-up questions were received regarding the quality of meteorological data used to support AST LAR 196 to which the following interim response is provided.***

Review of the meteorological data for 2003 through 2007 used in support of the original LAR 196 submittal has identified several instances where the data quality is less than what was expected. As stated in the April 14, 2010 response to RAI #11, the original AST submittal provided five years of meteorological data for which the most recent five year period was chosen to be most representative. Regulatory Guide 1.194 states that "The NRC staff considers 5 years of hourly observations to be representative of long-term trends at most sites. With sufficient justification of its representativeness, however, the minimum meteorological data set is one complete year (including all four seasons) of hourly observations." Since the original submittal,

the 2008 and 2009 data sets have become available and are thought to be of higher quality than the 2003 and 2004 data sets. Accordingly, FPL is considering revising its selection of the five years of meteorological data from 2003 through 2007 to 2005 through 2009 The revised hourly meteorological data, joint frequency distributions, atmospheric dispersion coefficients, and data substitution summaries for the period from 2005-2009 will be transmitted to the NRC upon completion of FPL's reanalysis of the data. Based on using new data, the radiological dose consequence analyses may need to be revised using the new meteorological data. The response to the Accident Dose Branch's follow-up questions related to the quality of meteorological data will be provided separately as a further supplement to this response.

3. ***RAI #20, FPL stated in the April 14, 2010 RAI response that a change to TS 3/4.7.5 would be proposed to address NRC concerns over language in the current TS and is provided below. This question states:***

   "For TS 3/4.7.5 "Control Room Emergency Ventilation System", the action statement for modes 1, 2, 3, and 4 states, "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 . . ." Provide a discussion describing what action will be taken to mitigate the consequences of a DBA that may occur during the 84 hours when the system is inoperable. The discussion should include details describing how compliance with Appendix A to 10 CFR Part 50 GDC 19 "Control Room" will be maintained. The discussion should also state whether the 84 hours are factored into the calculated dose of the licensing basis analyses of DBA consequences."

   A change to TS 3/4.7.5 "Control Room Emergency Ventilation System (CREVS)" and its bases documentation has been prepared as shown in Figures 2 and 3, respectively. The proposed TS change will take an approach similar to that proposed by the Point Beach Nuclear Plant (PBNP) and is consistent with that given in the Westinghouse Standard Technical Specification (STS) [Reference 5]. PTN has a safety-related Control Room Emergency Ventilation System that provides for redundancy of key active system components, e.g., three air handling units (AHUs), three condensing units, two recirculation fans, two recirculation dampers, two normal air intake dampers, and two emergency air intake dampers. These system components are motor operated components that automatically realign on initiation of recirculation mode and are backed by emergency power from the emergency diesel generators (EDGs) during a loss-of-offsite power. In addition, each exhaust duct in the kitchen and toilet areas has a motor-operated damper that automatically realigns and is backed by emergency power from the EDGs and a gravity backdraft damper. CREVS services a common control room for both units currently configured with common passive components, e.g. a single filter train and a common distribution ductwork that provides control room ventilation.

   Modifications

   Modifications are proposed to the CREVS to install a compensatory filtration unit that may be manually placed into service in the event that the installed filter train becomes inoperable. Based on the space available, the new filtration unit can be located in the purge fan room adjacent to the southeast corner of the Control Room and will be designed as a safety-related, seismic Class I backup to the installed system. This proposed location is currently outside of the control room

envelope and post maintenance testing will assure the leak tightness of the system. The new filtration unit design is currently planned to include a recirculation fan, charcoal and high efficiency particulate air filters and capable of being powered off of the swing bus from the EDGs. The breakers to these fans will be controlled, as necessary, to maintain the EDG loads within the current EDG load demands for the CREVS. Such operating restrictions provide for isolation between the automatic and manual system features in the CREVS. The new unit will be equipped with normally closed manual isolation dampers on the inlet and outlet ducts when not in operation.

When manually placed into service, the proposed compensatory filtration unit will take makeup air from upstream of the emergency outside air intake dampers and recirculated air from the Control Room through the emergency filter and return it back to the Control Room. This mode of operation will require manual realignment of the CREVS components including opening of the recirculation fan and damper breakers to prevent auto-start, opening the inlet and outlet manual dampers to enable the compensatory flow paths and closing the manual isolation damper in the emergency outside air intake to prevent diversion of recirculation flow. See Figure 4 for the proposed design configuration of the compensatory filtration unit. In addition, one manual isolation damper is proposed to be installed in the kitchen area exhaust duct and another in the toilet area exhaust ducts as compensatory backups to the motor-operated and gravity backdraft dampers in the event that they cannot be closed.

TS Change

The current LCO provides for an Allowed Outage Time (AOT) of 84 hours to restore the system and its associated components to OPERABLE status. The proposed change to the LCO would allow inoperability of redundant active CREVS components (one AHU, two condensing units, one recirculation fan, one recirculation damper, one normal air intake damper, and/or one emergency air intake damper) for a period of up to 7 days consistent with the STS treatment 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 system components to perform the required CREVS safety function; specifically, maintaining the Control Room environment for 30 days of continuous occupancy without exceeding a 5 rem total effective dose equivalent (TEDE) for the duration of the accident.

Current TS 3/4.7.5 LCO, ACTIONS, & SR

3.7.5 The Control Room Emergency Ventilation System shall be OPERABLE.

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3 and 4:

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.

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:

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 1.25% [LAR 196] 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.

Proposed TS 3/4.7.5 LCO

3.7.5 The Control Room Emergency Ventilation System shall be OPERABLE with

a. Three air handling units,
b. Two 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.

Justification

The proposed changes to TS 3/4.7.5 LCO provide better specification of system operability requirements by itemizing the essential system components required to assure system operability consistent with the guidance currently given in the normal operating procedure for the control room ventilation system.

Proposed TS 3/4.7.5 ACTIONS

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. If the mitigating actions of action a.5 are implemented, then this action does not apply.

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. If the mitigating actions of action a.5 are implemented, then this action does not apply.

a.5 With the filter train inoperable (due to reasons other than inoperable CRE boundary [TSTF-448]), 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 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.

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. If the mitigating actions of action a.5 are implemented, then this action does not apply.

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, then movement of irradiated fuel may resume.

Justification

a.1: Three AHUs are required since 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. In the case of one inoperable AHU, the AHU is required to be restored to OPERABLE status within the 7 day AOT based on the low probability of a DBA occurring during the AOT and the continued ability of the remaining two AHUs to perform their safety function.

a.2: Any one of the three condensing (A/C) units is capable of maintaining the 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. In the case of two inoperable condensing units, at least one condensing unit is required to be restored to OPERABLE status within the 7 day AOT based on the low probability of a DBA occurring during the AOT and the continued capability of the remaining condensing unit to perform its safety function.

a.3: Each recirculation fan is considered a 100% capacity fan and required only to support emergency operation (recirculation mode). In the case of an inoperable recirculation fan, the fan is required to be restored to OPERABLE status within the 7 day AOT based on the low probability of a DBA occurring during the AOT and the continued capability of its redundant recirculation fan to perform its safety function.

a.4: Each recirculation damper is sufficient to support emergency operation (recirculation mode). In the case of an inoperable recirculation damper, the damper can either be restored within the 7 day AOT or the inoperable damper can be placed in the open position and the CREVS run in recirculation mode until the inoperable damper is restored to OPERABLE status. The 7 day AOT is based on the low probability of a DBA occurring during the AOT and the continued capability of its redundant damper to perform its safety function. The option to

reposition the damper and run in recirculation mode is permitted since repositioning of the damper to its open position fulfills its safety function and the damper fails "as-is", i.e., remains in position, in the event of failure of its motor operator or receipt of an emergency actuation signal.

a.5: There is only one installed emergency filter but a compensatory filtration unit will be added and made available for use in the event that the installed filtration train cannot be used. In the case of an inoperable emergency filtration train due to an inoperable filter, two inoperable recirculation fans, and /or two inoperable recirculation dampers, the revised Action will allow for manual alignment and startup of the new compensatory filtration unit within 24 hours of entering the Action for a period of up to 7 days based on the low probability of a DBA occurring during the AOT and the mitigating actions, e.g., use of compensatory filtration unit. The 24 hour allowance is considered reasonable based on the low probability of a DBA occurring during this period and is a reasonable amount of time to initiate and accomplish the mitigating actions described here. In addition, for the recirculation fans, recirculation dampers, and emergency outside air intake dampers, the associated action statement (a.3, a.4, & a.7) will have a caveat negating its applicability if the mitigating actions associated with an inoperable filtration train have been implemented, i.e., the compensatory filtration unit has been aligned and/or placed into service.

a.6: The normal outside air intake damper are in-series isolation dampers. In the case of an inoperable normal outside air intake damper, the damper can either be restored within the 7 day AOT or the inoperable damper can be placed in the closed position and the CREVS run in recirculation mode until the inoperable damper is restored to OPERABLE status. The 7 day AOT is based on the low probability of a DBA occurring during the AOT and the continued capability of its redundant damper to perform its safety function. The option to reposition the damper and run in recirculation mode is permitted since repositioning of the damper to its closed position fulfills its safety function and the damper fails "as-is", i.e., remains in position, in the event of failure of its motor operator or receipt of an emergency actuation signal.

a.7: Each emergency outside air damper is sufficient to support emergency operation (recirculation mode). In the case of an inoperable emergency outside air damper(s), the damper(s) can either be restored within the 7 day AOT or the inoperable damper(s) can be placed and maintained in the open position until the inoperable damper is restored to OPERABLE status. The option to reposition the damper(s) is permitted since repositioning of the damper(s) to the open position fulfills the safety function and the damper(s) fail open in event of failure of the motor operator or receipt of an emergency actuation signal. Operation of the system in either normal or recirculation modes is permitted.

a.8/9: The exhaust duct isolation dampers consist of one motor operated dampers and one gravity backdraft damper in the kitchen and toilet area exhaust ducts. In the case of an inoperable motor-operated damper in the kitchen or toilet area exhaust duct, the damper can either be restored within the 7 day AOT or the affected flow path isolated by either manually closing the motor-operated damper or its associated manual isolation damper until the damper can be restored to OPERABLE status. This 7 day AOT assumes the continued operability of the gravity backdraft damper in the affected flow path.

Footnote** - If the action is taken such that indefinite operation is permitted (a.4, a.6, a.7, a.8, a.9), then movement of irradiated fuel is allowed. Although still technically in the Action due to inoperable component, the system configuration, as modified, satisfies the design requirement to support system emergency operation with the ability to withstand a single active failure.

The revised LCO will also address system inoperability due to a degraded control room envelope boundary consistent with Technical Specification Task Force (TSTF) 448 restrictions after NRC approval of PTN LAR 194, "Control Room Habitability TSTF-448," dated September 26, 2008 [Reference 6]. It will provide for up to 90 days to restore the control room boundary envelope.

Proposed TS 3/4.7.5 SURVEILLANCE REQUIREMENT

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

Justification

f.: The additional surveillance is necessary to assure operability of the gravity backdraft dampers in the kitchen and toilet exhaust ducts as they are required to satisfy the single failure criteria.

No Significant Hazards Determination

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazard if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

FPL proposes to revise Turkey Point Units 3 and 4 Technical Specification Surveillance Requirement 4.4.8 for RCS Specific Activity to expand its applicability to MODES 1, 2, 3, and 4 and Technical Specification 3/4.7.5 for the Control Room Emergency Ventilation System (CREVS) to better specify system operability requirements and associated actions.

FPL has reviewed this proposed license amendment for FPL's Turkey Point Units 3 and 4 and determined that its adoption would not involve a significant hazards consideration. The bases for this determination are:

The proposed amendment does not involve a significant hazards consideration for the following reasons:

1. **The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.**

   The proposed changes to TS 4.4.8 will only provide for better assurance of required sampling and analysis of the reactor coolant system specific activity during thermal power changes and transient conditions (MODES 1, 2, 3, and 4). This will ensure potential consequences of a DBA are bounded by the approved accident analyses.

   The proposed changes to TS 3/4.7.5 itemize the system operability requirements and appropriate actions in the event that those requirements are not satisfied. These actions include actions to be taken during the allowed outage times (AOTs) specified in the actions to bring the system back

into compliance with the system operability requirements. The actions also provide for restoration of the inoperable component or in some cases provide for placing and maintaining it in a safe condition until it can be restored. The actions may include compensatory measures that require initiation of mitigating actions involving operator action to manually align and place into service a compensatory filtration unit in the event that the normal filtration train is out-of-service. These compensatory measures are required to be taken within 24 hours compared to the current allowed outage time of 84 hours for system inoperability without any compensatory measures specified. Moreover, consistent with the current Turkey Point TS and TSTF-448 AOTs, manually aligning the compensatory filter within 24 hours to maintain CREVS operability is acceptable in order to ensure control room operations will be protected from analyzed radiological hazards. The other action statements for inoperability of a redundant active component provide for an AOT of 7 days consistent with the Westinghouse Standard Technical Specification. They are based on the low probability of occurrence of a DBA challenging the Control Room Habitability during this time period and the continued capability of the remaining system components to perform the required CREVS safety function.

The proposed changes have no effect on the probability of an accident previously evaluated as they do not affect any accident initiators. The proposed changes have no significant effect on the consequences of an accident previously evaluated as they either provide for better monitoring of plant operating parameters or for compensatory actions to be taken for out-of-service equipment not previously available. Design changes to enhance the system capabilities will be made to the same design and quality standards as the existing CREVS. System modifications required to support these proposed changes are evaluated under the 10 CFR 50.59 program and are enhancements to the mitigation strategies.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes to TS 4.4.8 will only provide for better assurance of required sampling and analysis of the reactor coolant system specific activity during MODES 1, 2, 3, and 4. The proposed modifications to the plant configuration will be fully qualified to the appropriate design requirements to assure their required function is available for accident mitigation. Additionally, functions of other equipment required for accident mitigation are also not adversely impacted. Design changes to enhance the system capabilities will be made to the same design and quality standards as the existing CREVS. The proposed changes to TS 3/4.7.5 will provide for better specification of system operability requirements and appropriate actions in the event that those requirements are not satisfied. The proposed changes have no effect on accident precursors or initiators and only enhance mitigation capabilities with regard to protecting control room personnel from radiological hazards.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed amendment does not involve a significant reduction in the margin of safety.

The proposed changes to TS 4.4.8 will only provide for better assurance of required sampling and analysis of the reactor coolant system specific activity during thermal power changes and transient conditions (MODES 1, 2, 3, and 4). No plant system or component design or operational requirements are affected by these changes.

The proposed changes to TS 3/4.7.5 will provide for better specification of system operability requirements and appropriate actions in the event that those requirements are not satisfied. The proposed increase in the specified AOT for inoperability of CREVS components from 84 hours to 7 days is considered insignificant as it is consistent with the Westinghouse Standard Technical Specification and based on the low probability of occurrence of a DBA challenging the Control Room Habitability during this time period and the continued capability of the remaining system components to perform the required CREVS safety function. Moreover, consistent with the current Turkey Point TS and TSTF-448 AOTs, manually aligning the compensatory filter within 24 hours to maintain CREVS operability is an acceptable margin of safety to ensure control room operations will be protected from analyzed radiological hazards. The proposed changes provide for compensatory actions to be taken for out-of-service equipment that were not previously available and thus enhance existing mitigation capabilities with regard to protecting control room personnel from radiological hazards.

Therefore, the proposed change does not involve a significant reduction in the margin of safety.

Based on the above discussion, FPL has determined that the proposed change does not involve a significant hazards consideration.

References

1. W. Jefferson (FPL) to U.S. Nuclear Regulatory Commission (L-2009-133), "License Amendment Request 196: Alternative Source Term and Conforming Amendment," Accession No. ML092050277, June 25, 2009.
2. J. Paige (NRC) to M. Nazar (FPL), "Turkey Point Units 3 and 4 – Request for Additional Information Regarding Request to Adopt the Alternate Source Term (TAC Nos. ME1624 and ME1625)," Accession No. ML100700446, March 24, 2010
3. M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2010-065), "Response to Request for Additional Information (RAI) Regarding Alternative Source Term (AST) License Amendment Request (LAR) 196 (TAC Nos. ME1624 and ME1625)," Accession No. ML101090027, April 14, 2010
4. Email from J. Paige (NRC) to R. Tomonto (FPL), Follow-up Accident Dose RAI Regarding Question #8, April 26, 2010
5. Email from J. Paige (NRC) to R. Tomonto (FPL), Draft Follow-up RAIs RE the AST Meteorological Data, May 4, 2010
6. W. Jefferson (FPL) to U.S. Nuclear Regulatory Commission (L-2008-196), "License Amendment Request (LAR 194): Control Room Habitability TSTF-448," Accession No. ML082820551, September 26, 2008.

Figure 1 – TS Table 4.4-1

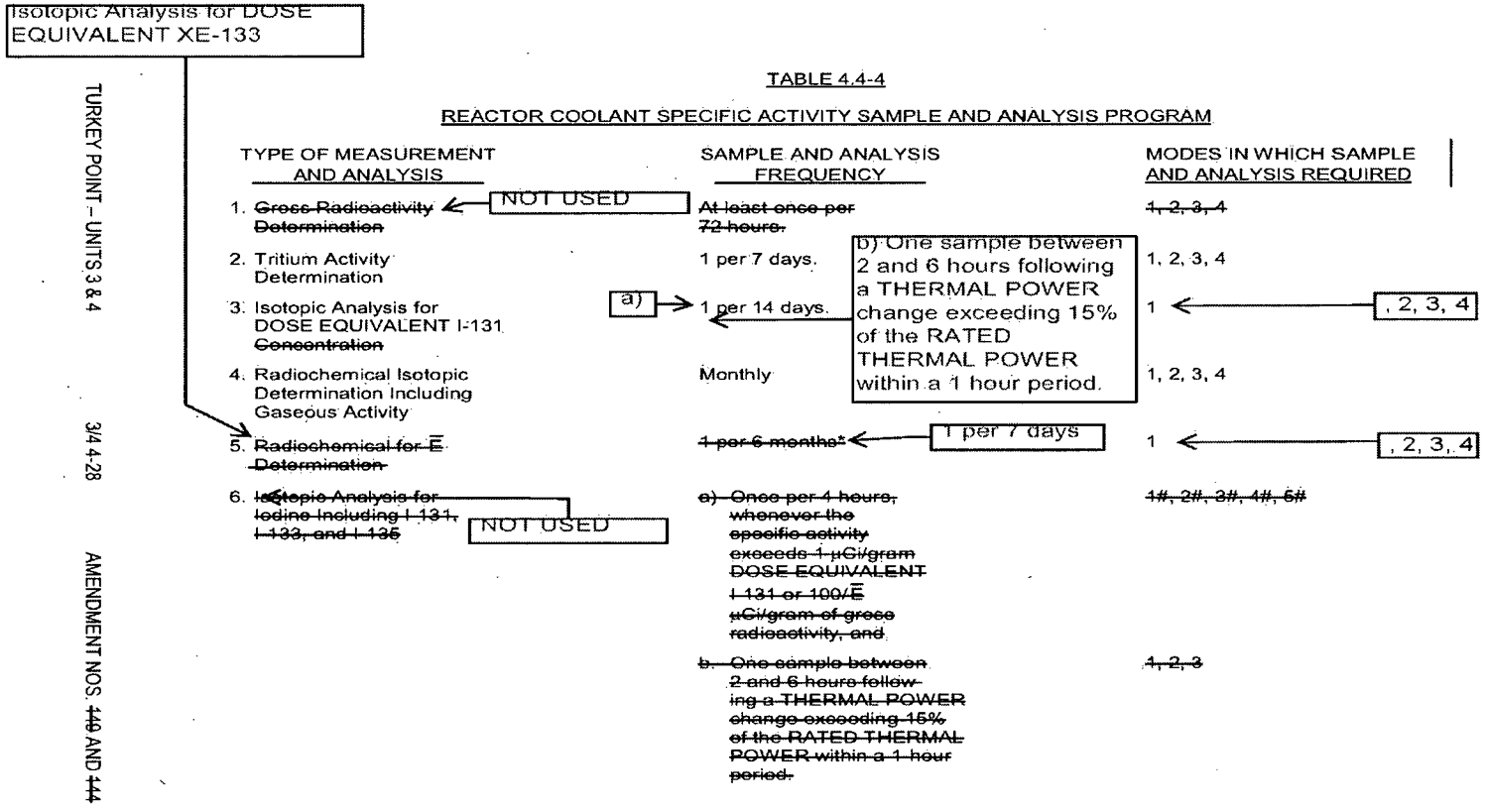

TABLE 4.4-4

REACTOR COOLANT SPECIFIC ACTIVITY SAMPLE AND ANALYSIS PROGRAM

TYPE OF MEASUREMENT AND ANALYSIS	SAMPLE AND ANALYSIS FREQUENCY	MODES IN WHICH SAMPLE AND ANALYSIS REQUIRED
1. ~~Gross Radioactivity Determination~~	~~At least once per 72 hours.~~	~~1, 2, 3, 4~~
2. Tritium Activity Determination	1 per 7 days.	1, 2, 3, 4
3. Isotopic Analysis for DOSE EQUIVALENT I-131 ~~Concentration~~	1 per 14 days.	1
4. Radiochemical Isotopic Determination Including Gaseous Activity	Monthly	1, 2, 3, 4
5. ~~Radiochemical for E Determination~~	~~1 per 6 months*~~	1
6. ~~Isotopic Analysis for Iodine Including I-131, I-133, and I-135~~	~~a) Once per 4 hours, whenever the specific activity exceeds 1 µCi/gram DOSE EQUIVALENT I-131 or 100/E µCi/gram of gross radioactivity, and~~	~~1#, 2#, 3#, 4#, 6#~~
	~~b. One sample between 2 and 6 hours following a THERMAL POWER change exceeding 15% of the RATED THERMAL POWER within a 1 hour period.~~	~~1, 2, 3~~

Figure 2 TS 3/4.7.5

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 Insert 1

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3 and 4:

~~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 2

MODES 5 and 6:

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:

Figure 2 TS 3/4.7.5 (continued)

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%~~ 1.25% 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. At least once per 18 months by verifying operability of the kitchen and toilet area exhaust dampers

Figure 2 TS 3/4.7.5 LCO

Insert 1

a. Three air handling units,

b. Two 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.

Insert 2

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. If the mitigating actions of action a.5 are implemented, then this action does not apply.

Figure 2 TS 3/4.7.5 LCO (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. If the mitigating actions of action a.5 are implemented, then this action does not apply.

a.5 With the filter train inoperable (due to reasons other than inoperable CRE boundary [TSTF-448]), 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 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.

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. If the mitigating actions of action a.5 are implemented, then this action does not apply.

Figure 2 TS 3/4.7.5 LCO (continued)

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, then movement of irradiated fuel may resume.

Figure 3 – TS 3/4.7.5 Bases (Information Only)

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ATTACHMENT 1
(Page 88 of 112)

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 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.~~

5 rem total effective dose equivalent (TEDE) for the duration of the accident. This limitation is consistent with the requirements of 10 CFR 50.67.

W2003:DPS/ln/cls/cls

Figure 3 – TS 3/4.7.5 Bases (Information Only)(continued)

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ATTACHMENT 1
(Page 89 of 112)

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.~~

Add Insert 1 next page

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

with a safety factor of 2 applied.

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.

W2003:DPS/ln/cls/cls

Figure 3 TS 3/4.7.5 Bases (Information Only) (continued)

Insert 1

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.

Figure 3 TS 3/4.7.5 Bases (Information Only) (continued)

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), 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 (for reasons other than an inoperable CRE boundary [TSTF-448]), 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 the compensatory filtration unit are initiated, and, within 24 hours, the mitigating actions are 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 AOT 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.

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.

Figure 4 – CREVS Simplified Layout Diagram