December 21, 2017
L-2017-198
10 CFR 50.90

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

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Renewed Facility Operating Licenses DPR-31 and DPR-41

License Amendment Request 235, Technical Specifications Changes to Address Non-Conservative Actions for Containment and Control Room Ventilation Isolation Functions

Pursuant to 10 CFR Part 50.90, Florida Power & Light Company (FPL) hereby requests amendments to Renewed Facility Operating Licenses DPR-31 and DPR-41 for Turkey Point Nuclear Plant Units 3 and 4 (Turkey Point), respectively. The proposed license amendments modify the Turkey Point Technical Specifications (TS) by modifying the Engineered Safety Features Actuation System (ESFAS) instrumentation requirements in order to resolve non-conservative actions associated with the Containment ventilation isolation and the Control Room ventilation isolation functions. The proposed license amendments additionally revise the Control Room ventilation isolation function to no longer credit Containment radiation monitoring instrumentation, eliminate redundant radiation monitoring instrumentation requirements, eliminate select core alterations applicability requirements, relocate radiation monitoring and Reactor Coolant System leakage detection requirements within the TS to align with their respective functions, and relocate the Spent Fuel Pool (SFP) area monitoring requirements to licensee controlled documents.

The enclosure to this letter provides FPL's evaluation of the proposed changes. Attachment 1 to the enclosure provides the existing TS pages marked up to show the proposed changes. Attachment 2 provides the existing TS Bases pages marked up to show the proposed changes. The TS Bases changes are provided for information only and will be incorporated in accordance with the TS Bases Control Program upon approval of the proposed amendment. Attachment 3 provides a revised Turkey Point Alternate Source Term (AST) dose assessment analysis in support of the proposed changes.

FPL has determined that the proposed changes do not involve a significant hazards consideration pursuant to 10 CFR 50.92(c), and there are no significant environmental impacts associated with the change. The Turkey Point Onsite Review Group (ORG) has reviewed the proposed license amendments. In accordance with 10 CFR 50.91(b)(1), copies of the proposed license amendments are being forwarded to the State designee for the State of Florida.

FPL requests that the proposed changes are processed as a normal license amendment request, with approval within one year of the submittal date. Once approved, the amendments shall be implemented within 90 days.

This letter contains no new regulatory commitments.

If you have any questions or require additional information, please contact Mr. Mitch Guth, Licensing Manager, at 305-246-6698.

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

Executed on December 21 , 2017.

Sincerely,

Thomas Summers
Regional Vice President - Southern Region
Florida Power & Light Company

Enclosure

cc: USNRC Regional Administrator, Region II
USNRC Project Manager, Turkey Point Nuclear Plant
USNRC Senior Resident Inspector, Turkey Point Nuclear Plant
Ms. Cindy Becker, Florida Department of Health

Enclosure

Evaluation of the Proposed Change

Turkey Point Nuclear Plant, Units 3 and 4
License Amendment Request 235, Technical Specifications Changes to Address
Non-Conservative Actions for Containment and Control Room Ventilation Isolation Functions

1.0 SUMMARY DESCRIPTION

Florida Power & Light Company (FPL) requests amendments to Renewed Facility Operating Licenses DPR-31 and DPR-41 for Turkey Point Nuclear Plant Units 3 and 4 (Turkey Point), respectively. The proposed license amendments modify the Turkey Point Technical Specifications (TS) by modifying the Engineered Safety Features Actuation System (ESFAS) instrumentation requirements in order to resolve non-conservative actions associated with the Containment ventilation isolation and the Control Room ventilation isolation functions. The proposed license amendments additionally revise the Control Room ventilation isolation function to no longer credit Containment radiation monitoring instrumentation, eliminate redundant radiation monitoring instrumentation requirements, eliminate select core alterations applicability requirements, relocate radiation monitoring and Reactor Coolant System leakage detection requirements within the TS to align with their respective functions, and relocate the Spent Fuel Pool (SFP) area monitoring requirements to licensee controlled documents.

2.0 DETAILED DESCRIPTION

2.1 System Design and Operation

2.1.1 Containment Purge System

The Containment Purge System is designed to purge the Containment atmosphere for unlimited access during shutdown periods. The Containment Purge System includes provisions for handling both supply and exhaust air. The supply system includes an outside air connection to roughing filters, a fan duct system and a supply penetration with two quick-closing butterfly valves. The exhaust system includes an exhaust penetration, a duct system, fan, roughing filters with connection to the plant vent and two quick-closing butterfly valves. The supply and exhaust penetration butterfly valves are in-series, one inside and one outside the containment, and act as purge isolation valves capable of closing in less than five seconds on receipt of a containment isolation signal or high activity signal from the air particulate and gas monitor.

2.1.2 Control Room Ventilation System

The Control Room Ventilation System, including the Control Room Emergency Ventilation System (CREVS), functions to provide a controlled environment for the comfort and safety of Control Room personnel and to assure the operability of Control Room components during normal operation, anticipated operational occurrences, and design basis accident conditions. The design basis of the system with respect to radiological emergencies is to be capable of automatically starting under accident conditions to initiate emergency Control Room pressurization and filtration, assuming the occurrence of a single active damper or supply fan failure. With respect to other emergencies that could affect the Control Room environment, the design basis is to be capable of manual actuation.

The Control Room Ventilation System draws fresh air from the outside and has the capability to go into an emergency recirculation mode that is part of the CREVS. In the emergency recirculation mode, fresh air provided from the CREVS intake piping and recirculated air from the Control Room is processed through the high efficiency particulate air (HEPA) filters, charcoal filters (single train filtration unit) and supply fans to maintain an acceptable Control Room

environment. A manually aligned compensatory filtration unit, which undergoes the same filtration testing, is available as a backup to the CREVS filter train.

The Control Room emergency ventilation mode is initiated by a safety injection (SI) signal, a Phase "A" containment isolation signal, a high radiation signal from the Containment atmosphere radiation monitors, a high radiation signal from the redundant Control Room normal air intake radiation monitors, or manual initiation from a test switch. Following initiation, the Control Room ventilation exhaust fans are de-energized and the Control Room normal air intake and exhaust redundant, in-series ventilation isolation dampers are closed. (The Control Room kitchen and lavatory ventilation dampers are de-energized and their exhaust pathways sealed off with solid plates). The redundant, in-parallel Control Room emergency air intake dampers are opened to provide the emergency recirculation air path and a single air supply fan is energized to move the appropriate mixture of recirculating Control Room air and fresh outdoor air through the CREVS filtration system. In addition, the Technical Support Center (TSC) ventilation system emergency mode is started from the CREVS B channel. This feature is not part of the ESFAS nor required for the CREVS to meet its safety function.

2.1.3 RCS Leakage Detection System

Positive indications in the Control Room are provided for Reactor Coolant System (RCS) leakage detection by equipment which monitors the radioactivity concentration in the Containment atmosphere, Auxiliary Building ventilation exhausts, Steam Generator blowdown, Condenser air ejector exhausts, and the component cooling loop liquid. This equipment includes the Containment air particulate monitor, Containment radioactive gas monitor, the component cooling radiation monitor, and the Reactor Vessel Head leakage detection system which is capable of sampling and analyzing each Control Rod Drive Mechanism (CRDM) Cooler Ventilation discharge and the Containment atmosphere on an as-needed basis. In addition, the Steam Generator blowdown and Condenser air ejector monitors function to detect primary-to-secondary system leakage. The basic design criterion is the detection of deviations from normal containment environmental conditions including air particulate activity, radiogas activity, and in addition, in the case of gross leakage, the liquid inventory in the process systems and containment sump.

2.1.4 Engineered Safety Features Actuation System (ESFAS)

The ESFAS system measures temperatures, pressures, flows, and levels in the reactor coolant, steam, reactor containment and auxiliary systems, actuates the engineered safety features, and monitors their operation. Process variables required on a continuous basis for the startup, operation, and shutdown of the nuclear units are indicated, recorded and controlled from the Control Room. The quantity and types of process instrumentation provided ensures safe and orderly operation of all systems and processes over the full operating range of the Units. The ESFAS systems are actuated by the respective actuation channels. Each coincidence network energizes an ESFAS actuation device that operates the associated engineered safety features equipment, motor starters and valve operators. The channels are designed to combine redundant sensors, and independent channel circuitry, coincident trip logic and different parameter measurements so that a safe and reliable system is provided in which a single failure will not defeat the specified function. Depending on the severity of the condition, the ESFAS actuates several engineered safety features including the

safety injection (SI), Containment ventilation isolation and Control Room ventilation isolation systems.

2.1.5 Radiation Monitoring System

The Radiation Monitoring System is designed to warn of radiation health conditions which might develop and give early warnings of a malfunction which might lead to an unsafe health condition or Unit damage. Instruments are located in and around the Units to detect and record radiation levels. Detected radiation levels in excess of desired setpoints initiate Control Room alarms. The Radiation Monitoring System operates in conjunction with regular and special radiation surveys and with chemical and radiochemical analyses performed by the plant staff to provide adequate information and warning for the continued safe operation of the Units and assurance that personnel exposure does not exceed 10 CFR 20 guidelines.

The Containment Air Particulate Monitors, R-3-11 (Unit 3) and R-4-11 (Unit 4) (R-11), measure the Containment air particulate radioactivity through continuous sampling of the Containment atmosphere and transmit the detector outputs to the Control Room radiation monitoring system cabinets. The Containment Air Particulate Monitors ensure that the release rate through each Containment vent during purging is maintained below specified limits. Upon the detection of high air particulate radioactivity, the Containment Air Particulate Monitors initiate closure of the Containment purge supply and exhaust isolation valves and the Containment instrument air bleed valves, and initiate isolation of the Control Room ventilation system. The alarm setpoints are specified in the Turkey Point TS and set in accordance with the Turkey Point Offsite Dose Calculation Manual (ODCM).

The Containment Radioactive Gas Monitors, R-3-12 and R-4-12 (R-12), measure the gaseous beta radioactivity in the Containments to ensure that the radiation release rate during Containment purging is maintained below specified limits. The Containment Radioactive Gas Monitors take continuous air samples from the Containment atmosphere after passing through the Containment Air Particulate Monitors, R-11, draw the samples through a closed, sealed system to a gas monitor assembly, and transmit the detector outputs to the Control Room radiation monitoring system cabinets. High gas radiation level initiates closure of the Containment purge supply and exhaust isolation valves and the Containment instrument air bleed valves, and initiates isolation of the Control Room ventilation system. The alarm setpoints are specified in the Turkey Point TS and set in accordance with the Turkey Point ODCM.

The Unit 3 spent fuel pit area is monitored by the Spent Fuel Pit Vent Exhaust special particulate, iodine and noble gas (SPING) radiation monitor, RaD-3-6418, and the area radiation monitor, RD-3-1419. The Unit 3 Spent Fuel Pit Vent Exhaust SPING monitor detects gaseous radiation passing through the Unit 3 spent fuel pit and the Unit 3 cask handling facility areas. The Unit 3 Spent Fuel Pit Vent Exhaust SPING monitor also collect halogens and particulates on filter elements for later analyses. The Unit 3 Spent Fuel Pit Vent Exhaust SPING monitor alarms on a control console in the Cable Spreading Room. The alarm set point is determined by the Turkey Point TS.

The Unit 4 spent fuel pit area is monitored by the Plant Vent Stack Exhaust SPING monitor, RaD-6304 and the Process Radiation Monitor, R-14. Gaseous radiation in the Unit 4 spent fuel pit area is routed through the plant vent exhaust

pathway for monitoring by both monitors. The Plant Vent Stack Exhaust SPING monitor also collect halogens and particulates on filter elements for later analyses. The highly sensitive Process Radiation Monitor, R-14, detects gaseous radiation passing through the plant vent to the atmosphere and provides remote indication and annunciation on the Waste Disposal System control board in the Control Room. The Plant Vent Exhaust SPING monitor alarms on a control console in the Computer Room. A high radiation level alarm on R-14 automatically closes a gas release valve in the Waste Disposal System thereby isolating the Gas Decay Tanks from the plant vent stack exhaust pathway. Both the RaD-6304 and R-14 alarm setpoints are determined by the Turkey Point TS and set in accordance with the Turkey Point ODCM.

2.2 Current Requirements and Description of Proposed Changes

2.2.1 TS 3/4.3.2, Engineered Safety Features Actuation System (ESFAS) Instrumentation

(a) TS 3/4.3.2, Table 3.3-2, Engineered Safety Features Actuation System (ESFAS) Instrumentation, specifies the Total Number of Channels, Channels to Trip, Minimum Channels OPERABLE, applicable MODES and required ACTION(s) for the Containment ventilation isolation instrumentation Functional Unit (FU) 3.c.2, Automatic Actuation Logic and Actuation Relays, and FU 3.c.4, Containment Radioactivity - High.

With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, Table 3.3-2, FU 3.c.2, and Table 3.3-2, FU 3.c.4, require compliance with Table 3.3-2, ACTION 16.

Table 3.3-2, ACTION 16, directs the user to the ACTION requirements of TS 3/4.3.3, Table 3.3-4, Radiation Monitoring Instrumentation for Plant Operations, FU 1.a, Containment Atmosphere Radioactivity - High.

TS 3/4.3.3, Table 3.3-4, FU 1.a, directs the user to ACTION 26 of TS 3/4.3.3, Table 3.3-4, during MODES 1, 2, 3 and 4.

ACTION 26 of TS 3/4.3.3, Table 3.3-4, states that with both the Containment particulate (i.e. R-11) and the gaseous (R-12) radioactivity monitoring systems inoperable, operation may continue for up to 7 days provided:

1) A Containment Sump Level Monitoring System is OPERABLE;
2) Appropriate grab samples are obtained and analyzed at least once per 24 hours;
3) A Reactor Coolant System water inventory balance is performed at least once per 8*** hours except when operating in shutdown cooling mode; and
4) Containment Purge, Exhaust and Instrument Air Bleed valves are maintained closed.****

*** *Not required to be performed until 12 hours after establishment of steady state operation.*

**** *Instrument Air Bleed Valves may be opened intermittently under administrative controls.*

The proposed change revises ACTION 16 of Table 3.3-2 for FU 3.c.2, Automatic Actuation Logic and Actuation Relays, and FU 3.c.4, Containment Radioactivity - High, as follows:

> *ACTION 16 - With the number of OPERABLE channels less than the Minimum Channels Operable Requirement, operation may continue provided the containment purge, exhaust, and instrument air bleed valves are maintained closed. (Instrument air bleed valves may be opened intermittently under administrative controls).*

(b) TS 3/4.3.2, Table 3.3-2, specifies the Total Number of Channels, Channels to Trip, Minimum Channels OPERABLE, applicable MODES and required ACTION(s) for the Containment ventilation isolation instrumentation FU 3.c.4, Containment Radioactivity - High. A note in the Total Number of Channels column denoted by a double octothorpe (##) states that the channels are for particulate radioactivity and for gaseous radioactivity

TS 3/4.3.2, Table 3.3-3, Engineered Safety Features Actuation System Instrumentation Trip Setpoints, specifies the Allowable Value and the Trip Setpoint for the Containment ventilation isolation instrumentation, FU 3.c.4, Containment Radioactivity - High. A note denoted by "(1)" in the Functional Unit column states that either the particulate or the gaseous channel in the OPERABLE status will satisfy the LCO.

The proposed change revises the note denoted by a double octothorpe (##) in the Total Number of Channels column for TS 3/4.3.2, Table 3.3-3, FU 3.c.4, Containment Radioactivity - High, as follows:

> (##) *Channels are for particulate radioactivity and for gaseous radioactivity.* ***Either an OPERABLE particulate radioactivity or gaseous radioactivity channel will satisfy the Minimum Channels OPERABLE requirement.***

The proposed change also deletes the note denoted by "(1)" in the Functional Unit column for TS 3/4.3.2, Table 3.3-3, FU 3.c.4, Containment Radioactivity - High.

(c) TS 3/4.3.2, Table 3.3-2, specifies the Total Number of Channels, Channels to Trip, Minimum Channels OPERABLE, applicable MODES and required ACTION(s) for Control Room ventilation isolation instrumentation, FU 9.a, Automatic Actuation Logic and Actuation Relays.

With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, Table 3.3-2, FU 9.a requires compliance with Table 3.3-2, ACTION 16.

Table 3.3-2, ACTION 16, directs the user to the ACTION requirements of TS 3/4.3.3, Table 3.3-4, Radiation Monitoring Instrumentation for Plant Operations, FU 1.a, Containment Atmosphere Radioactivity - High.

TS 3/4.3.3, Table 3.3-4, FU 1.a, directs the user to ACTION 26 of TS 3/4.3.3, Table 3.3-4, during MODES 1, 2, 3 and 4.

ACTION 26 of TS 3/4.3.3, Table 3.3-4, states that with both the Containment particulate (i.e. R-11) and the gaseous (R-12) radioactivity monitoring systems inoperable, operation may continue for up to 7 days provided:

1) A Containment Sump Level Monitoring System is OPERABLE;
2) Appropriate grab samples are obtained and analyzed at least once per 24 hours;
3) A Reactor Coolant System water inventory balance is performed at least once per 8*** hours except when operating in shutdown cooling mode; and
4) Containment Purge, Exhaust and Instrument Air Bleed valves are maintained closed.****

*** *Not required to be performed until 12 hours after establishment of steady state operation.*

**** *Instrument Air Bleed Valves may be opened intermittently under administrative controls.*

The proposed change replaces ACTION 16 of Table 3.3-2 for FU 9.a, Automatic Actuation Logic and Actuation Relays, with new ACTION(s) 24A and 24B, which state:

ACTION 24A *With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, within 7 days restore the inoperable channel to OPERABLE status or place the Control Room Emergency Ventilation System in the recirculation mode.*

ACTION 24B *With the number of OPERABLE channels two less than the Minimum Channels OPERABLE Requirement, either:*

1. Immediately place the Control Room Emergency Ventilation System in the recirculation mode with BOTH Control Room emergency recirculation fans operating, OR

2.a Immediately place the Control Room Emergency Ventilation System in the recirculation mode with ONE Control Room emergency recirculation fan operating, AND

2.b Restore at least one inoperable channel to OPERABLE status within 7 days, or be in at least HOT STANDBY within the next 6 hours for one Unit, or 12 hours for both Units, and in COLD SHUTDOWN within the following 30 hours.

The proposed change also removes the reference to MODE 6 in the Applicable MODES column and the reference to CORE ALTERATIONS in the notation denoted by a double-asterik (**) for Table 3.3-2 such that

the Applicable MODES for FU 9.a are changed to MODES 1, 2, 3, 4 or during the movement of irradiated fuel within the containment.

(d) TS 3/4.3.2, Table 4.3-2, Engineered Safety Features Actuation System Instrumentation Surveillance Requirements, specifies the CHANNEL CHECK, CHANNEL CALIBRATION, ANALOG CHANNEL OPERATIONAL TEST, TRIP ACTUATING DEVICE OPERATIONAL TEST, ACTUATION LOGIC TEST and MODES FOR WHICH SURVEILLANCE IS REQUIRED for Control Room ventilation isolation instrumentation, FU 9.a, Automatic Actuation Logic and Actuation Relays.

The proposed change adds a notation denoted by "(4)" in the MODES FOR WHICH SURVEILLANCE IS REQUIRED column of TS 3/4.3.2, Table 4.3-2, FU 9.a. The notation denoted by "(4)" directs the user to an existing note in TS 3/4.3.2, Table 4.3-2, which states "Applicable in MODES 1, 2, 3, 4, or during CORE ALTERATIONS or movement of irradiated fuel within the containment."

The proposed change also removes the reference to CORE ALTERATIONS in the notation denoted by "(4)" of TS 3/4.3.2, Table 4.3-2, such that the Applicable MODES for FU 9.a are MODES 1, 2, 3, 4 or during movement of irradiated fuel within the containment.

(e) TS 3/4.3.2, Table 3.3-2, specifies the Total Number of Channels, Channels to Trip, Minimum Channels OPERABLE, applicable MODES and required ACTION(s) fror the Control Room ventilation isolation instrumentation, FU 9.c, Containment Radioactivity - High.

TS 3/4.3.2, Table 3.3-3, Engineered Safety Features Actuation System Instrumentation Trip Setpoints, specifies the Allowable Value and the Trip Setpoint for the Control Room ventilation isolation instrumentation, FU 9.c, Containment Radioactivity - High.

TS 3/4.3.2, Table 4.3-2, Engineered Safety Features Actuation System Instrumentation Surveillance Requirements, specifies the CHANNEL CHECK, CHANNEL CALIBRATION, ANALOG CHANNEL OPERATIONAL TEST, TRIP ACTUATING DEVICE OPERATIONAL TEST, ACTUATION LOGIC TEST and applicable MODES for the Control Room ventilation isolation instrumentation, FU 9.c, Containment Radioactivity - High.

The proposed change deletes Control Room ventilation isolation instrumentation, FU 9.c, Containment Radioactivity - High, from TS 3/4.3.2, Tables 3.3-2, 3.3-3 and 4.3-2. The proposed change is supported by analyses (see Attachment 3) which credit the Control Room air intake radiation monitors for the Control Room ventilation isolation function.

(f) TS 3/4.3.2, Table 3.3-2, specifies the Total Number of Channels, Channels to Trip, Minimum Channels OPERABLE, applicable MODES and required ACTION(s) for Control Room ventilation isolation instrumentation, FU 9.e, Air Intake Radiation Level.

With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, Table 3.3-2, FU 9.e, requires compliance with Table 3.3-2, ACTION 24.

Table 3.3-2, ACTION 24, states that within one-hour, isolate the Control Room emergency ventilation system and initiate operation of the Control Room emergency ventilation system in the recirculation mode. [ACTION 24 is implemented by isolating normal Control Room ventilation and initiating the Control Room emergency ventilation system (CREVS)].

The proposed change replaces ACTION 24 of Table 3.3-2 for FU 9.e, Control Room Air Intake Radiation Level, with new ACTIONs 24A and 24B, which state:

ACTION 24A *With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, within 7 days restore the inoperable channel to OPERABLE status or place the Control Room Emergency Ventilation System in the recirculation mode.*

ACTION 24B *With the number of OPERABLE channels two less than the Minimum Channels OPERABLE Requirement, either:*

1. Immediately place the Control Room Emergency Ventilation System in the recirculation mode with BOTH Control Room emergency recirculation fans operating, OR

2.a Immediately place the Control Room Emergency Ventilation System in the recirculation mode with ONE Control Room emergency recirculation fan operating, AND

2.b Restore at least one inoperable channel to OPERABLE status within 7 days, or be in at least HOT STANDBY within the next 6 hours for one Unit, or 12 hours for both Units, and in COLD SHUTDOWN within the following 30 hours.

2.2.2 TS 3/4.3.3.1, Radiation Monitoring for Plant Operations

(a) TS 3/4.3.3.1, Table 3.3-4, Radiation Monitoring Instrumentation for Plant Operations, specifies the Total Number of Channels, Channels to Trip, Minimum Channels OPERABLE, applicable MODES and required ACTION(s) for Containment Atmosphere Radioactivity - High particulate and gaseous radioactivity instrumentation, FU 1.a.

With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement during MODES 1, 2, 3 and 4, Table 3.3-4, FU 1.a, requires compliance with ACTION 26.

With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement during MODES 5 and 6, Table 3.3-4, FU 1.a, requires compliance with ACTION 27.

Table 3.3-4, ACTION 26, states that with both the particulate and the gaseous radioactivity monitoring systems inoperable, operation may continue for up to 7 days provided:

1) A Containment Sump Level Monitoring System is OPERABLE;
2) Appropriate grab samples are obtained and analyzed at least once per 24 hours;
3) A Reactor Coolant System water inventory balance is performed at least once per 8*** hours except when operating in shutdown cooling mode; and
4) Containment Purge, Exhaust and Instrument Air Bleed valves are maintained closed.****

*** Not required to be performed until 12 hours after establishment of steady state operation.

**** Instrument Air Bleed Valves may be opened intermittently under administrative controls.

The proposed change revises ACTION 26 of TS 3/4.3.3.1, Table 3.3-4, as follows:

ACTION 26 - In MODES 1 thru 4: With both the Particulate and Gaseous Radioactivity Monitoring Systems inoperable, comply with the following ACTIONs:

1. *Table 3.3-2, ACTION 16, and*
2. *TS 3.4.6.1, ACTION a.*

The proposed change also removes the two references to CORE ALTERATIONS in ACTION 27 of TS 3/4.3.3.1, Table 3.3-4.

(b) TS 3/4.3.3, Table 3.3-4, Radiation Monitoring Instrumentation for Plant Operations, specifies the Total Number of Channels, Channels to Trip, Minimum Channels OPERABLE, applicable MODES and required ACTION(s) for the Containment Atmosphere Radioacvity - High particulate or gaseous instrumentation, FU 1.a, and the RCS Leakage Detection particulate or gaseous radioactivity monitoring instrumentation, FU 1.b.

TS 3/4.3.3, Table 4.3-3, Radiation Monitoring Instrumentation for Plant Operations Surveillance Requirements, specifies the CHANNEL CHECK, CHANNEL CALIBRATION, ANALOG CHANNEL OPERATIONAL TEST, and applicable MODES for the RCS Leakage Detection particulate and gaseous radioactivity monitoring instrumentation, FU 1.b.

The proposed change deletes the RCS leakage detection particulate and gaseous radioactivity instrumentation, FU 1.b, from Table 3.3-4, Radiation Monitoring Instrumentation for Plant Operations, and from Table 4.3-3, Radiation Monitoring Instrumentation for Plant Operations Surveillance Requirements.

The proposed change also removes the reference to CORE ALTERATIONS in the notation denoted by a single asterik (*) specified in the Applicable MODES column of TS 3/4.3.3, Table 3.3-4, FU 1.a,

Containment Atmosphere Radioactivity-High (Particulate or Gaseous) instrumentation. The proposed change relatedly adds a comma in the notation between the words “containment” and “comply” for grammatical correctness.

(c) TS 3/4.3.3, Table 3.3-4, Radiation Monitoring Instrumentation for Plant Operations, specifies the Total Number of Channels, Channels to Trip, Minimum Channels OPERABLE, applicable MODES and required ACTION(s) for the Unit 3 SFP Radioactivity - High Gaseous monitoring instrumentation, FU 2.a, and the Unit 4 SFP (Plant Vent) Radioactivity - High Gaseous (SPING and PRMS) monitoring instrumentation, FU 2.b. A notation denoted by double asterisk (**) in the applicable MODES column for FU 2.a and FU 2.b applies the requirements whenever irradiated fuel is in the spent fuel pits. A notation for FU 2.b denoted by an octothorpe (#) states that the Unit 4 SFP area is monitored by the Plant Vent radioactivity instrumentation.

TS 3/4.3.3, Table 4.3-3, Radiation Monitoring Instrumentation for Plant Operations Surveillance Requirements, specifies the CHANNEL CHECK, CHANNEL CALIBRATION, ANALOG CHANNEL OPERATIONAL TEST, and applicable MODES requirements for the Unit 3 SFP Radioactivity - High Gaseous monitoring instrumentation, FU 2.a, and the Unit 4 SFP (Plant Vent) Radioactivity - High Gaseous (SPING and PRMS) monitoring instrumentation, FU 2.b. A notation denoted by an asterisk (*) in the applicable MODES column for FU 2.a and FU 2.b applies the requirements whenever irradiated fuel is in the spent fuel pits. A notation for FU 2.b denoted by an octothorpe (#) states that the Unit 4 SFP is monitored by the Plant Vent radioactivity instrumentation.

The proposed change relocates the requirements for FU 2.a and FU 2.b, from TS 3/4.3.3, Table 3.3-4 and TS 3/4.3.3, Table 4.3-3 to the Turkey Point ODCM. The proposed change also deletes required ACTION 28 of Table 3.3-4 and the associated notations for FU 2.a and FU 2.b denoted by an octothorpe (#) and a double-asterisk (**) in Table 3.3-4 and an asterisk (*) in Table 4.3-3.

2.2.3 TS 3/4.4.6.1, RCS Leakage Detection Systems

(a) TS 3/4.4.6.1, RCS Leakage Detection Systems, specifies the LCO, applicable MODES, required ACTION(s) and SR(s) for the RCS Leakage Detection System, Containment Atmosphere Gaseous or Particulate Radioactivity Monitoring System.

TS 3/4.4.6.1, ACTION a.4, requires the Containment purge, exhaust and instrument air bleed valves to be maintained closed in the event that both the particulate and gaseous radioactivity monitoring systems are inoperable. A Note denoted by a double asterisk (**) allows intermittent opening of the instrument air bleed valves under administrative control.

The proposed change deletes TS 3.4.6.1, ACTION a.4, and the associated footnote denoted by a double asterisk (**).

(b) TS 3/4.4.6.1, SR 4.4.6.1.a, requires that the Containment Atmosphere Gaseous and Particulate Monitoring System surveillances, CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL

OPERATIONAL TEST, be performed at the frequencies specified in TS 3/4.3.3, Table 4.3-3, Radiation Monitoring Instrumentation for Plant Operations Surveillance Requirements.

The proposed change replaces the TS 3/4.4.6, SR 4.4.6.1.a, requirement to perform surveillance testing at the frequencies specified in TS 3/4.3.3, Table 4.3-3, with a requirement to perform the testing in accordance with the Turkey Point Surveillance Frequency Control Program (SFCP). The proposed change also deletes the unnecessary hyphen (-) between the words "System" and "performance". The proposed change is as follows:

4.4.6.1 The Leakage Detection System shall be demonstrated OPERABLE by:

Delete hypen (-)

a. Containment Atmosphere Gaseous and Particulate Monitoring System-performance of CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST ~~*at the frequencies specified in Table 4.3-3*~~ ***in accordance with the Surveillance Frequency Control Program****, and*

2.2.4 TS 3/4.9.9, Refueling Operations, Containment Venitlation Isolation System

(a) TS 3/4.9.9, Containment Venitlation Isolation System, specifies the LCO, applicable MODES, required ACTION(s) and SR(s) for the Containment Venitlation Isolation System during CORE ALTERATIONS or movement of irradiated fuel within Containment.

The proposed change removes the reference to CORE ALTERATIONS in the Applicability of TS 3/4.9.9. The proposed change also replaces the SR 4.9.9 reference to CORE ALTERATIONS with "irradiated fuel movement inside the containment". The proposed change is as follows:

3.9.9 The Containment Venitlation Isolation System shall be OPERABLE.

APPLICABILITY: During ~~***CORE ALTERATIONS or***~~ movement of irradiated fuel within the containment.

4.9.9 The Containment Ventilation Isolation System shall be demonstrated OPERABLE within 100 hours prior to the start of and in accordance with the Surveillance Frequency Control Program during ~~***CORE ALTERATIONS***~~ ***irradiated fuel movement inside the containment*** by verifying that Containment Ventilation Isolation occurs on a High Radiation test signal from each of the containment radiation monitoring instrumentation channels.

2.2.5 TS 3/4.9.13, Refueling Operations, Radiation Monitoring

(a) TS 3/4.9.13, Radiation Monitoring, specifies the LCO, applicable MODES, required ACTION(s) and SR(s) for the Containment and Control Room ventilation isolation functions during CORE ALTERATIONS or movement of irradiated fuel within Containment.

The proposed change modifies the LCO of TS 3/4.9.13, Radiation Monitoring, to delete the reference to the Control Room ventilation isolation function. The proposed change relatedly deletes ACTION (b) such that isolating the normal Control Room ventilation system and placing the CREVS in service is no longer required in the event of inoperable Containment particulate and gaseous radioactivity monitors during irradiated fuel movement within the Containment. The proposed change is supported by revised analyses (see Attachment 3) which credits the Control Room air intake radiation monitors for the Control Room ventilation isolation function.

The proposed change also removes the reference to CORE ALTERATIONS in the Applicability of TS 3/4.9.13. The proposed change is as follows:

3.9.13 The Containment Radiation monitors which initiate containment ~~and control room~~ ventilation isolation shall be OPERABLE.

APPLICABILITY: During ~~CORE ALTERATIONS or~~ movement of irradiated fuel within the containment.

ACTION:

a) With one or both radiation monitors inoperable, operation may continue provided the containment ventilation isolation valves are maintained closed.

~~b) With one or both radiation monitors inoperable, within 1 hour isolate the Control Room Emergency Ventilation System and initiate operation of the Control Room Emergency Ventilation System in the recirculation mode.~~

3.0 TECHNICAL EVALUATION

3.1 TS 3/4.3.2, Engineered Safety Features Actuation System (ESFAS)

3.1.1 TS 3/4.3.2, Table 3.3-2, ESFAS Instrumentation

(a) The proposed change revises ACTION 16 of Table 3.3-2 for FU 3.c.2, Automatic Actuation Logic and Actuation Relays, and FU 3.c.4, Containment Radioactivity - High, as follows:

ACTION 16 - With the number of OPERABLE channels less than the Minimum Channels Operable Requirement, operation may continue provided the Containment purge supply, exhaust and instrument air bleed valves are maintained closed. (The instrument air bleed valves may be opened intermittently under administrative controls.)

FU 3.c.2, Containment Ventilation Isolation, in TS 3/4.3.2, Table 3.3-2 requires a minimum of two channels of automatic actuation logic and actuation relays. With less than two OPERABLE channels, ACTION 16

of Table 3.3-2 invokes ACTION 26 of TS 3/4.3.3.1, Table 3.3-4. However, ACTION 26 only addresses the condition in which both the particulate (R-11) and the gaseous (R-12) Containment radioactivity monitoring systems are inoperable. Hence, ACTION 16 of Table 3.3-2 is non-conservative since it allows indefinite operation with less than the minimum number of OPERABLE Containment ventilation isolation automatic actuation channels provided either Containment radioactivity monitor (R-11 or R-12) is OPERABLE. Consistent with NRC Administrative Letter 98-10 (Reference 6.1), FPL has implemented remedial measures which require the Containment purge, exhaust and instrument air bleed valves to be maintained closed whenever the minimum channels OPERABLE requirement of FU 3.c.2 is not met. The remedial measures will remain in effect until the proposed license amendments can be implemented.

The proposed change revises ACTION 16 for FU 3.c.2 of TS 3/4.3.2, Table 3.3-2, to require the Containment purge, exhaust, and instrument air bleed valves to be maintained closed in the event one or both of the Containment ventilation isolation automatic actuation logic and actuation relay channels are inoperable. The proposed change is consistent with the existing ACTION 16 requirement to maintain the Containment purge, exhaust, and instrument air bleed valves closed in accordance with TS 3/4.3.3.1, Table 3.3-4, ACTION 26. However, the proposed ACTION 16 does not contain the RCS leakage detection related remedial measures of TS 3/4.3.3.1, Table 3.3-4, ACTION 26, since these requirements are unrelated to the Containment ventilation isolation function of FU 3.c.2 and are repeated in TS 3/4.4.6, RCS Leakage Detection. The proposed change is appropriate since maintaining the Containment purge, exhaust, and instrument air bleed valves closed, accomplishes the function normally performed by the FU 3.c.2 actuation instrumentation while allowing the instrument air bleed valves to be opened intermittently under administrative controls, consistent with the current TS 3/4.3.3.1, Table 3.3-4, ACTION 26. Furthermore, the proposed change is more restrictive because it adds an ACTION where none currently exists for one or more inoperable FU 3.c.2 actuation instrumentation channels.

TS Table 3.3-2, Containment Ventilation Isolation, FU 3.c.4, requires a minimum of one Containment Radioactivity -High instrumentation channel to initiate isolation of the Containment ventilation system. With less than one FU 3.c.4 instrumentation channel (i.e. both R-11 and R-12 are inoperable), ACTION 16 of Table 3.3-2 invokes ACTION 26 of TS 3/4.3.3.1, Table 3.3-4. ACTION 26 appropriately requires maintaining the Containment purge, exhaust, and instrument air bleed valves closed when both R-11 and R-12 are inoperable. However, ACTION 26 also invokes remedial actions associated with the RCS leakage detection system.

The proposed ACTION 16 incorporates the existing TS 3/4.3.3.1, Table 3.3-4, ACTION 26 requirement to maintain the Containment purge, exhaust and instrument air bleed valves closed whenever the minimum number of FU 3.c.4 channels OPERABLE is not met. The proposed change is appropriate since maintaining the Containment purge, exhaust, and instrument air bleed valves closed, accomplishes the function normally performed by the FU 3.c.4 monitoring instrumentation while allowing the instrument air bleed valves to be opened intermittently

under administrative controls, consistent with current TS 3/4.3.3.1, Table 3.3-4, ACTION 26. Hence, the proposed change reduces Control Room operator burden by establishing an ACTION in TS 3/4.3.2, Table 3.3-2, for less than the minimum number of OPERABLE FU 3.c.4 channels rather than referring the user to TS 3/4.3.3.1, Table 3.3-4 ACTION 26.

(b) The proposed change revises the note denoted by a double octothorpe (##) in the Total Number of Channels column for TS 3/4.3.2, Table 3.3-2, FU 3.c.4, Containment Radioactivity - High, as follows:

(##) *Channels are for particulate radioactivity and for gaseous radioactivity.* ***Either an OPERABLE particulate radioactivity or gaseous radioactivity channel will satisfy the Minimum Channels OPERABLE requirement.***

The proposed change also deletes the note denoted by "(1)" in the Functional Unit column for TS 3/4.3.2, Table 3.3-3, FU 3.c.4, Containment Radioactivity - High.

TS 3/4.3.2, Table 3.3-2, FU 3.c.4 requires two channels of Containment ventilation isolation on Containment Radioactivity - High instrumentation of which only one channel is required to satisfy the minimum OPERABLE channels requirement. The two Containment Radioactivity - High channels for FU 3.c.4 are comprised of the Containment particulate radioactivity (R-11) and the Containment gaseous radioactivity (R-12) monitoring instrumentation. The proposed change deletes the note denoted by "(1)" in the Functional Unit column for TS 3/4.3.2, Table 3.3-3, FU 3.c.4, which states that either the Containment particulate radioactivity (i.e. R-11) or the gaseous radioactivity (R-12) channels satisfy the Limiting Conditions for Operation (LCO). The proposed change modifies the note denoted by a double octothorpe (##) in the Total Number of Channels column for TS 3/4.3.2, Table 3.3-2, FU 3.c.4, to state that either R-11 or R-12 will satisfy the minimum OPERABLE channels requirement. Modifying the double octothorpe note as proposed makes Note 1 in TS 3/4.3.2, Table 3.3-3, regarding the LCO for FU 3.c.4 unnecessary. In addition, the purpose of Table 3.3-3 is for instrumentation setpoints and not operability requirements.

(c) The proposed change replaces ACTION 16 of Table 3.3-2 for FU 9.a, Automatic Actuation Logic and Actuation Relays, with new ACTION(s) 24A and 24B, which state:

ACTION 24A *With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, within 7 days restore the inoperable channel to OPERABLE status or place the Control Room Emergency Ventilation System in the recirculation mode.*

ACTION 24B With the number of OPERABLE channels two less than the Minimum Channels OPERABLE Requirement, either:

1. Immediately place the Control Room Emergency Ventilation System in the recirculation mode with BOTH Control Room emergency recirculation fans operating, OR

2.a Immediately place the Control Room Emergency Ventilation System in the recirculation mode with ONE Control Room emergency recirculation fan operating, AND

2.b Restore at least one inoperable channel to OPERABLE status within 7 days, or be in at least HOT STANDBY within the next 6 hours for one Unit, or 12 hours for both Units, and in COLD SHUTDOWN within the following 30 hours.

FU 9.a, Automatic Actuation Logic and Actuation Relays, requires two OPERABLE channels for the Control Room ventilation isolation function. With one less than the Minimum Channels OPERABLE requirement, ACTION 16 of Table 3.3-2 invokes ACTION 26 of TS 3/4.3.3.1, Table 3.3-4. However, ACTION 26 of TS 3/4.3.3.1, Table 3.3-4, only addresses the condition in which both the particulate (R-11) and the gaseous (R-12) Containment radioactivity monitoring systems are inoperable. Hence, ACTION 16 of Table 3.3-2 is non-conservative since it allows indefinite operation with less than the minimum number of OPERABLE Control Room ventilation isolation automatic actuation channels provided either R-11 or R-12 are OPERABLE. Consistent with NRC Administrative Letter 98-10 (Reference 6.1), Turkey Point has implemented interim remedial measures as specified in proposed ACTIONs 24A and 24B below. The remedial measures will remain in effect until the proposed license amendments can be implemented.

Proposed ACTION 24A replaces ACTION 16 by explicitly addressing the condition of one less than the minimum allowable Control Room ventilation isolation automatic actuation and logic channels OPERABLE requirement. ACTION 24A establishes a seven day Completion Time for one FU 9.a channel less than the Minimum Channels OPERABLE requirement. Seven days is consistent with the Completion Time specified in TS 3.7.5, Control Room Emergency Ventilation System, to restore an inoperable but redundant CREVS component before a plant shutdown is required. The proposed seven day Completion Time is acceptable considering the low probability of occurrence of a design basis accident during the period of inoperability and the availability of the redundant channel of actuation instrumentation. The proposed seven day Completion Time is also consistent with Westinghouse Standard Technical Specification (STS) 3.3.7A, Control Room Emergency Filtration System (CREFS) Actuation Instrumentation, of NUREG-1431, Revision 4, Volume 1, Specifications (Reference 6.2), for an inoperable redundant channel or train of CREFS actuation instrumentation. Isolating the normal Control Room ventilation system and operating the CREVS in the recirculation mode accomplishes the function performed by the actuation instrumentation and thereby places the plant in a conservative mode of operation.

Proposed ACTION 24B addresses the condition in which both automatic actuation logic and actuation relays channels are inoperable for FU 9.a. Proposed ACTION 24B requires the normal Control Room ventilation system to be immediately isolated and the CREVS to be placed in the recirculation mode. Aligning the CREVS in this configuration accomplishes the function performed by the inoperable Control Room ventilation isolation actuation instrumentation and thereby places the plant in a conservative mode of operation.

With CREVS in the recirculation mode, proposed ACTION 24B allows indefinite plant operation provided both parallel CREVS recirculation fans are placed in service. STS 3.3.7A, Control Room Emergency Filtration System (CREFS) Actuation Instrumentation, of NUREG-1431, Volume 1, Specifications (Reference 6.2), allows indefinite operation with two inoperable CREFS actuation channels provided both parallel CREFS trains are placed in service. NUREG-1431, Standard Technical Specifications - Westinghouse Plants, Volume 2, Bases (Reference 6.3) explains this specification as ensuring that the CREFS function is performed in the presence of a single failure. By requiring both recirculation fans in service, proposed ACTION 24B ensures that the CREVS function is performed in the presence of any single active failure given the redundancy of the other active CREVS components.

With CREVS in the recirculation mode and only one CREVS recirculation fan in service, ACTION 24B allows seven days to restore at least one channel of Control Room ventilation isolation actuation instrumentation to OPERABLE status before a plant shutdown is required. A seven day Completion Time is acceptable since the CREVS is operating in the recirculation mode and the low probability of occurrence of a design basis accident during the period. The seven day Completion Time is consistent with TS 3.7.5, CREVS, for an inoperable, redundant CREVS component. The seven day completion time is also consistent with STS 3.3.7A, Control Room Emergency Filtration System (CREFS) Actuation Instrumentation, of NUREG-1431, Volume 1 (Reference 6.2), for two inoperable channels or trains of CREFS actuation instrumentation whereby a single CREFS train is in operation for the duration of the inoperability. If at least one inoperable channel of Control Room ventilation isolation actuation instrumentation cannot be restored within the seven day Completion Time, ACTION 24B requires the applicable Unit to be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours. If ACTION 24B applies to both Units simultaneously, ACTION 24B requires both Units to be in HOT STANDBY within 12 hours and COLD SHUTDOWN within the following 30 hours. Allowing 12 hours for both Units to reach HOT STANDBY allows sequential rather than simultaneous Unit shutdowns thereby enhancing Control Room orderliness and reducing transient demand on shared equipment.

The proposed change also removes the reference to MODE 6 in the Applicable MODES column and the reference to CORE ALTERATIONS in the notation denoted by a double-asterik (**) for Table 3.3-2 such that the Applicable MODES for FU 9.a are changed to MODES 1, 2, 3, 4 or during the movement of irradiated fuel within the containment. In Reference 6.5, the NRC approved Technical Specification Task Force

(TSTF) Traveler TSTF-51, Revision 2, which removed the requirement to suspend CORE ALTERATIONS from specific Standard Technical Specification (STS) APPLICABILITY and ACTION requirements including for the Containment ventilation isolation instrumentation and the Control Room emergency filtration actuation instrumentation. The bases for the removal was that the accidents postulated to occur during CORE ALTERATIONS do not result in fuel cladding integrity damage. In Reference 6.6, the NRC expressed concern about the dose consequences that could result from the application of TSTF-51. Consistent with the TSTF Committee recommendations specified in Reference 6.7, FPL has confirmed that the onsite and offsite doses resulting from the unlikely dropping of a load allowed to be moved during CORE ALTERATIONS onto irradiated fuel assemblies seated in the reactor vessel or fuel storage pool are bounded by the theTurkey Point fuel handling accident (FHA) analysis of record when crediting only safety systems required to be OPERABLE. As such, the proposed change is consistent with the NRC endorsed TSTF-51 and NUREG-1431, Revision 4, Volume 1, Specifications (Reference 6.2), is not applicable to the Staff's recent concern regarding TSTF-51, and is thereby reasonable.

(d) The proposed change adds a notation denoted by "(4)" in the MODES FOR WHICH SURVEILLANCE IS REQUIRED column of TS 3/4.3.2, Table 4.3-2, FU 9.a. The notation denoted by "(4) directs the user to an existing note in TS 3/4.3.2, Table 4.3-2, which states "Applicable in MODES 1, 2, 3, 4 or during CORE ALTERATIONS or movement of irradiated fuel within the containment."

FU 9.a currently has no entry in the MODES FOR WHICH SURVEILLANCE IS REQUIRED column of TS 3/4.3.2, Table 4.3-2. The proposed change corrects the inadvertent omission by aligning the applicable MODES for the surveillance requirements of TS 3/4.3.2, Table 4.3-2, FU 9.a, with the LCO requirements of TS 3/4.3.2, Table 3.3-2, FU 9.a. The requirements of TS 3/4.3.2, Table 3.3-2, FU 9.a, apply during MODES 1, 2, 3, 4 and 6**, where the notation denoted by the double-asterisk (**) directs the user to an existing note in TS 3/4.3.2, Table 4.3-2. The existing note states "Only during CORE ALTERATIONS or movement of irradiated fuel within the containment."

TS 3/4.3.2, Table 4.3-2, has an existing note denoted by the notation "(4)" which states "Applicable in MODES 1, 2, 3, 4 or during CORE ALTERATIONS or movement of irradiated fuel within the containment." Hence adding the notation "(4)" in the MODES FOR WHICH SURVEILLANCE IS REQUIRED column of TS 3/4.3.2, Table 4.3-2, FU 9.a, aligns the applicable MODES for the surveillance requirements of TS 3/4.3.2, Table 4.3-2, FU 9.a, with the LCO requirements of TS 3/4.3.2, Table 3.3-2, FU 9.a. The proposed change is thereby more restrictive since it adds a surveillance requirement where none currently exists.

The proposed change also removes the reference to CORE ALTERATIONS in the notation denoted by "(4)" of TS 3/4.3.2, Table 4.3-2, such that the Applicable MODES for FU 9.a are MODES 1, 2, 3, 4 or during movement of irradiated fuel within the containment. As discussed in Section 3.1.1(c) above, the proposed change is consistent with the

NRC endorsed TSTF-51 and NUREG-1431, Revision 4, Volume 1, Specifications (Reference 6.2), is not applicable to the Staff's recent concern regarding TSTF-51, and is thereby reasonable.

(e) The proposed change deletes Control Room ventilation isolation instrumentation, FU 9.c, Containment Radioactivity - High, from TS 3/4.3.2, Tables 3.3-2, 3.3-3 and 4.3-2. The proposed change is supported by analyses (see Attachment 3) which credit the Control Room air intake radiation monitors for the Control Room ventilation isolation function.

Deletion of the FU 9.c instrumentation function is proposed in order to alleviate the accrual of CREVS charcoal and high-efficiency particulate air (HEPA) filtration hours each time the Containment particulate (R-11) or gaseous (R-12) radioactivity monitors are removed from service for calibration, filter paper replenishment, etc.

The FU 9.c function of TS 3/4.3.2, Table 3.3-2, requires two channels of Control Room isolation and CREVS initiation on Containment high radiation signals, i.e. from either the Containment particulate (R-11) or gaseous (R-12) radiation monitors. With less than two FU 9.c channels OPERABLE, ACTION 16 of TS 3/4.3.2, Table 3.3-2, applies, which refers the user to ACTION 26 of TS 3/4.3.3, Table 3.3-4. ACTION 26 invokes remedial ACTIONS associated with the Containment ventilation isolation and RCS leakage detection functions but does not address the Control Room ventilation isolation function. Hence, the TS are non-conservative since Control Room isolation is not currently required in the event of inoperable Containment atmosphere radioactivity monitoring instrumentation. Consistent with NRC Administrative Letter 98-10 (Reference 6.1), Turkey Point compensates for this non-conservatism by isolating normal Control Room ventilation and placing the CREVS in the emergency recirculation mode whenever the minimum FU 9.c. channels OPERABLE requirement is not met. Turkey Point additionally places the TSC ventilation system in the emergency mode whenever the minimum FU 9.c. channels OPERABLE requirement is not met since the TSC emergency ventilation system is started from the CREVS B channel. This feature is not part of the ESFAS nor required for the CREVS to meet its safety function.

However, placing the CREVS in the emergency recirculation mode whenever the Containment atmosphere radioactivity monitoring instrumentation are removed from service accrues CREVS filtration hours towards the 720-hour OPERABILITY limit imposed by TS 3/4.7.5, Control Room Emergency Ventilation System. Hence routine maintenance such as R-11 and R-12 related calibration, filter paper replenishment, etc., has had the unintended burden of requiring more frequent Control Room air in-leakage and emergency filtration testing given the eight hours and more typically required for these activities, including maintaining equipment clearances, Containment entry, etc.

FPL proposes instead to eliminate Control Room ventilation isolation instrumentation, FU 9.c, Containment Radioactivity - High, from TS 3/4.3.2, Table 3.3-2 and relatedly, from TS 3/4.3.2, Tables 3.3-3 and Table 4.3.2. The proposed change is supported by revised radiolgocial analysis which eliminates the credit for the Containment radiation

monitors for the Loss of Coolant Accident (LOCA), Rod Control Cluster Assembly (RCCA) Ejection, and Fuel Handling Accident (FHA) events (Attachment 3). The revised analyses demonstrate that the Control Room air intake radioactivity monitoring instrumentation provides timely automatic isolation of the Control Room ventilation system and thereby limits Control Room operator doses to within the regulatory limits. The revised analyses support the assertion that the Containment radioactivity monitoring instrumentation need not be credited for the Control Room ventilation isolation function for any design basis accident. Additionally, supplemental analyses were performed which postulated radiological releases of insufficient dosage at the Control Room air intake monitors to trigger automatic Control Room isolation. Consistent with the Turkey Point AST analysis of record, Revised Radiological Dose Consequences for Alternative Source Term and Conforming Amendment (Reference 6.4), a 30-minute manual Control Room isolation was assumed for such cases. The results of these supplemental analyses also demonstrate that with less than the limiting release and delayed (30-minutes) Control Room operator action, the resulting Control Room doses remain within regulatory limits.

Based upon the revised AST dose analyses in Attachment 3, FPL proposes to delete Control Room ventilation isolation instrumentation, FU 9.c, Containment Radioactivity - High, from TS 3/4.3.2, Tables 3.3-2, 3.3-3 and 4.3-2. Deleting the FU 9.c instrumentation function from TS 3/4.3.2, Tables 3.3-2, 3.3-3 and 4.3-2 will not alter the manner in which the Containment atmosphere radiation monitors or associated Control Room actuation instrumentation will be operated and maintained. The requirements for these instruments, including the trip setpoints and surveillances, will be maintained under licensee control whereby any future changes will first be subject to the provisions of 10 CFR 50.59. Hence, the proposed change is reasonable since, as demonstrated by revised AST analyses, the Control Room air intake radioactivity monitoring instrumentation are capable of satisfying the Control Room ventilation isolation function for any applicable design basis accident and additionally, the existing instrumentation requirements will be maintained subject to 10 CFR 50.59. However, Turkey Point would no longer accrue unnecessary CREVS filtration hours each time the Containment radioactivity monitoring instrumentation is removed from service.

(f) The proposed change replaces ACTION 24 of FU 9.e, Control Room Air Intake Radiation Level, with new ACTION(s) 24A and 24B, which state:

ACTION 24A *With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, within 7 days restore the inoperable channel to OPERABLE status or place the Control Room Emergency Ventilation System in the recirculation mode.*

ACTION 24B *With the number of OPERABLE channels two less than the Minimum Channels OPERABLE Requirement, either:*

1. Immediately place the Control Room Emergency Ventilation System in the recirculation mode with BOTH Control Room emergency recirculation fans operating, OR

2.a Immediately place the Control Room Emergency Ventilation System in the recirculation mode with ONE Control Room emergency recirculation fan operating, AND

2.b Restore at least one inoperable channel to OPERABLE status within 7 days, or be in at least HOT STANDBY within the next 6 hours for one Unit, or 12 hours for both Units, and in COLD SHUTDOWN within the following 30 hours.

FU 9.e, Control Room Air Intake Radiation Level, requires two OPERABLE channels for the Control Room ventilation isolation function. With one less than the Minimum Channels OPERABLE requirement, Table 3.3-2 invokes ACTION 24 which states to isolate the Control Room emergency ventilation system and initiate operation of the Control Room emergency ventilation system in the recirculation mode within one hour. [ACTION 24 is implemented by isolating normal Control Room ventilation and initiating the Control Room emergency ventilation system (CREVS) within one hour].

Proposed ACTION 24A replaces ACTION 24 by extending the Completion Time to seven days for one FU 9.e channel less than the Minimum Channels OPERABLE requirement. Seven days is consistent with the Completion Time specified in TS 3.7.5, Control Room Emergency Ventilation System, to restore an inoperable but redundant CREVS component before a plant shutdown is required. The proposed seven day Completion Time is acceptable considering the low probability of occurrence of a design basis accident during the period of inoperability and the availability of the redundant actuation instrumentation channel. The proposed seven day Completion Time is also consistent with STS 3.3.7A, Control Room Emergency Filtration System (CREFS) Actuation Instrumentation, of NUREG-1431, Volume 1 (Reference 6.2), for an inoperable redundant channel or train of CREFS actuation instrumentation. Isolating the normal Control Room ventilation system and operating the CREVS in the recirculation mode accomplishes the function performed by the actuation instrumentation and places the plant in a conservative mode of operation. In addition, the proposed ACTION 24A clarifies the requirement to isolate the normal Control Room ventilation system and place the CREVS in operation when compared to the current Turkey Point TS wording in ACTION 24 which literally directs isolating the CREVS and then placing the CREVS in service. The revised wording establishes the appropriate required ACTION in the event of an FU 9.e channel one less than the Minimum Channels OPERABLE requirement.

Proposed ACTION 24B addresses the condition in which both Control Room air intake radiation monitoring channels are inoperable for the FU 9.e, Control Room Air Intake Radiation Level, function. ACTION 24B requires immediately isolating the normal Control Room ventilation system and placing the CREVS in the emergency recirculation mode. Placing the CREVS in service accomplishes the function performed by the inoperable Control Room air intake radiation monitoring channels and thereby places the plant in a conservative mode of operation.

With CREVS in the recirculation mode, proposed ACTION 24B allows indefinite plant operation provided both parallel CREVS recirculation fans are placed in service. STS 3.3.7A, Control Room Emergency Filtration System (CREFS) Actuation Instrumentation, of NUREG-1431, Volume 1, Specifications (Reference 6.2), allows indefinite operation with two inoperable CREFS actuation channels provided both parallel CREFS trains are placed in service. NUREG-1431, Standard Technical Specifications - Westinghouse Plants, Volume 2, Bases (Reference 6.3) explains this specification as ensuring that the CREFS function is performed in the presence of a single failure. By requiring both recirculation fans in service, proposed ACTION 24B ensures that the CREVS function is performed in the presence of any single active failure given the redundancy of the other active CREVS components.

With CREVS in the recirculation mode, ACTION 24B allots seven days to restore at least one channel of Control Room air intake radiation monitoring channel to OPERABLE status before a plant shutdown is required. A seven day Completion Time is acceptable since the CREVS is operating in the recirculation mode and the low probability of occurrence of a design basis accident during the period. The seven day Completion Time is consistent with the TS 3.7.5, CREVS, for an inoperable, redundant CREVS component. The seven day completion time is also consistent with STS 3.3.7A, Control Room Emergency Filtration System (CREFS) Actuation Instrumentation, of NUREG-1431, Volume 1 (Reference 6.2), for two inoperable channels or trains of CREFS actuation instrumentation whereby a single CREFS train is in operation for the duration of the inoperability. If at least one inoperable channel of Control Room air intake radiation monitoring instrumentation cannot be restored within the seven day Completion Time, ACTION 24B requires the applicable Unit to be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours. If ACTION 24B applies to both Units simultaneously, ACTION 24B requires both Units to be in HOT STANDBY within 12 hours and COLD SHUTDOWN within the following 30 hours. Allowing 12 hours for both Units to reach HOT STANDBY allows sequential rather than simultaneous Unit shutdowns thereby enhancing Control Room orderliness and reducing transient demand on shared equipment.

3.2 TS 3/4.3.3, Radiation Monitoring for Plant Operations

3.2.1 TS 3/4.3.3, Table 3.3-4, Radiation Monitoring Instrumentation for Plant Operations

(a) The proposed change revises ACTION 26 of TS 3/4.3.3, Table 3.3-4, as follows:

ACTION 26 - In MODES 1 thru 4: With both the Particulate and Gaseous Radioactivity Monitoring Systems inoperable, comply with the following ACTION(s):

1. *Table 3.3-2, ACTION 16, and*
2. *Technical Specification 3.4.6.1, ACTION a.*

ACTION 26 of TS 3/4.3.3, Table 3.3-4, addresses the simultaneous inoperability of Containment particulate (R-11) and gaseous (R-12) radioactivity monitoring instrumentation. ACTION 26 applies when the Containment atmosphere radiation monitoring (FU 1.a) or the RCS leakage detection (FU 1.b) instrumentation requirements of TS 3/4.3.3, Table 3.3-4, are not met in MODES 1 through 4. ACTION 26 also applies when the Containment ventilation isolation (FU 3.c) or Control Room ventilation isolation (FU 9) instrumentation requirements of TS 3/4.3.2, Table 3.3-2, are not met and ACTION 16 directs the user to ACTION 26. However, ACTION 26 does not establish remedial measures for all the above functions impacted by inoperable Containment radioactivity monitoring instrumentation. Moreover, ACTION 26 specifies the same required ACTION(s) as ACTION (a) of TS 3.4.6.1 for inoperable RCS leakage detection instrumentation.

The proposed change revises ACTION 26 to direct the user to the TS that controls the specific functions impacted by the Containment radioactivity monitoring instrumentation inoperability. Specifically, the proposed ACTION 26 directs the user to the proposed ACTION 16 of TS 3/4.3.2, Table 3.3-2 for the Containment ventilation isolation function, and to existing ACTION (a) of TS 3.4.6.1 for the RCS leakage detection function. The change is administrative in nature since the existing requirements of ACTION 26 are only relocated within the TS. When combined with other proposed changes in this amendment request, the proposed ACTION 26 addresses all required ACTION(s) for inoperable Containment particulate (R-11) or gaseous (R-12) radioactivity monitoring instrumentation. Hence, the proposed change enhances the TS by eliminating unnecessary and duplicative requirements, thereby reducing the burden to Control Room operators.

The proposed change also removes the two references to CORE ALTERATIONS in ACTION 27 of TS 3/4.3.3.1, Table 3.3-4. As discussed in Section 3.1.1(c) above, the proposed change is consistent with the NRC endorsed TSTF-51 and NUREG-1431, Revision 4, Volume 1, Specifications (Reference 6.2), is not applicable to the Staff's recent concern regarding TSTF-51, and is thereby reasonable.

(b) The proposed change deletes the RCS leakage detection particulate or gaseous radioactivity instrumentation, FU 1.b, from TS 3/4.3.3, Table 3.3-4, Radiation Monitoring Instrumentation for Plant Operations, and from Table 4.3-3, Radiation Monitoring Instrumentation for Plant Operations Surveillance Requirements.

FU 1.b of TS 3/4.3.3, Table 3.3-4 requires OPERABLE RCS leakage detection particulate radioactivity and gaseous radioactivity instrumentation for the Radiation Monitoring for Plant Operations function in MODES 1 through 4. TS 3/4.4.6 requires the same RCS leakage detection particulate radioactivity and gaseous radioactivity instrumentation for the RCS Leakage Detection function in MODES 1 through 4. FU 1.b of TS 3/4.3.3 imposes ACTION 26 for less than the minimum number of OPERABLE RCS leakage detection particulate radioactivity and gaseous radioactivity instrumentation channels. TS 3/4.4.6, ACTION (a) imposes the same required ACTION(s) for less than the minimum number of OPERABLE RCS leakage detection particulate radioactivity and gaseous radioactivity instrumentation channels. Finally,

FU 1.b of TS 3/4.3.3 , Table 4.3-3 provides the SRs (CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST) for the RCS leakage detection particulate and gaseous radioactivity monitoring instruments and specifies that the frequencies shall be performed in accordance with the Turkey Point SFCP. TS 3/4.4.6 provides the same SRs for the RCS leakage detection particulate and gaseous radioactivity monitoring instruments but refers the user to TS 3/4.3.3, Table 4.3-3, for the SR frequencies.

The proposed change deletes FU 1.b, RCS leakage detection particulate and gaseous radioactivity instrumentation, from TS 3/4.3.3, Table 3.3-4, and TS 3/4.3.3, Table 4.3-3, since TS 3/4.4.6 already imposes the same RCS leakage detection radioactivity instrumentation LCO, ACTION(s) and SR requirements. The proposed changes to TS 3/4.3.3, Tables 3.3-4 and 4.3-3, are administrative in nature and since no technical changes to the LCO, ACTION(s), or SRs associated with RCS leakage detection are proposed. TS 3/4.4.6 contains the same requirements for the Containment atmosphere particulate and gaseous radioactivity instruments for RCS leakage detection as does TS 3/4.3.3. Hence the deletion of these instruments from TS 3/4.3.3 simplifies the TS by consolidating the requirements for the RCS leakage detection radioactivity monitors and consequently, reducing the burden on Control Room operators in implementing the TS.

The proposed change also removes the reference to CORE ALTERATIONS in the notation denoted by a single asterik (*) specified in the Applicable MODES column of TS 3/4.3.3, Table 3.3-4, FU 1.a, Containment Atmosphere Radioactivity-High instrumentation. As discussed in Section 3.1.1(c) above, the proposed change is consistent with the NRC endorsed TSTF-51 and NUREG-1431, Revision 4, Volume 1, Specifications (Reference 6.2), is not applicable to the Staff's recent concern regarding TSTF-51, and is thereby reasonable. The proposed change relatedly adds a comma in the notation the words between "containment" and "comply" for grammatical correctness.

(c) The proposed change relocates the Units 3 and 4 SFP area radioactivity - high gaseous monitoring instrumentation requirements, FU 2.a and FU 2.b, from TS 3/4.3.3, Table 3.3-4, Radiation Monitoring Instrumentation for Plant Operations, and from TS 3/4.3.3, Table 4.3-3, Radiation Monitoring Instrumentation for Plant Operations Surveillance Requirements, to the Turkey Point ODCM and applicable plant procedures. The proposed change also deletes required ACTION 28 of Table 3.3-4, and the associated notations for FU 2.a and FU 2.b denoted by an octothorpe (#) and a double-asterisk (**) in Table 3.3-4 and an asterisk (*) in Table 4.3-3.

The affected instrumentation for the FU 2.a and FU 2.b functions include the Unit 3 SFP Exhaust monitors, RaD-3-6418 and RD-3-1419, and the Plant Vent Exhaust radioactivity monitors RaD-6304 and R-14.

Regulatory Guide (RG) 1.97, Instrumentation for Light-Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident, Revision 3 (Reference 6.8), establishes the minimum variables to be monitored by Control Room personnel during and following an accident. Using NUREG-1431, Volume 1 (Reference

6.2) as guidance, there are no SFP area radioactivity monitoring requirements for normal plant operations that require TS inclusion as an LCO. Reviewing other monitoring applications, STS 3.3.3, Post Accident Monitoring Instrumentation, NUREG-1431, Volume 2 (Reference 6.3) states that the instrument channels required to be OPERABLE include two classes of parameters identified during Unit specific implementation of RG 1.97, as Type A and Category 1 variables. The premise is repeated in a "Reviewer's Note" to STS 3.3.3, Table 3.3.3-1, of NUREG-1431, Volume 1 (Reference 6.2), which states,

> *"Table 3.3.3-1 shall be amended for each unit* as *necessary to list:*
>
> *1. All Regulatory Guide 1.97, Type A instruments and*
> 2. *All Regulatory Guide 1.97, Category 1, non-Type A instruments specified in the Unit's Regulatory Guide 1.* 97, *Safety Evaluation Report."*

The proposed change does not affect any instruments that involve RG 1.97 Type A, or Category 1 variables. The Turkey Point USFAR lists the Unit 3 SFP Vent Exhaust SPING monitor, RAD-3-6418, as a RG 1.97 Type C, Category 2 instrument for Containment effluent radioactivity noble gases from buildings or areas, and as Type E, Category 2 for all other identified release points. The Plant Vent Stack Monitor, RaD-6304, is listed as Type C, Category 2 for Containment effluent radioactivity noble gases from building or areas and from identified release points, and as Type E, Category 2 for common vent noble gases. Both RaD-6304 and RaD-3-6418 are listed as Type E, Category 3 for particulates and halogens at all identified release points. The Unit 3 SPF area radiation monitor, RD-3-1419, is listed as Type C, Category 2 for SFP area radiation. The Plant Vent Exhaust area radiation monitor, R-14, is not listed in the Turkey Point USFAR analysis for RG 1.97 instrumentation. (RaD-6304 encompasses the range of R-14). As such, the instruments are not required for TS inclusion using the guidance established in NUREG-1431, Volume 1, (Reference 6.2).

Furthermore, the SFP area radioactivity monitoring instrumentation is not installed equipment used to detect and indicate in the Control Room, a significant abnormal degradation of the reactor coolant pressure boundary; does not include process variables, design features, or operating restrictions that are an initial condition of a design basis accident or transient analysis that assumes the failure of or presents a challenge to the integrity of a fission product barrier; is not comprised of SSCs that are part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that assumes the failure of or presents a challenge to the integrity of a fission product barrier; and does not include SSCs which operating experience or probabilistic risk assessment have shown to be significant to public health and safety. Hence, the SFP radioactivity - high gaseous monitoring instrumentation does not meet the 10 CFR 50.36(c)(2)(ii) criteria for TS inclusion as an LCO. Consistent with the NRC’s Final Policy Statement on TS Improvements for Nuclear Power Reactors (Reference 6.9), the SFP area radioactivity monitoring instrumentation requirements are appropriate for relocation to licensee controlled documents with no adverse impact on safety.

Relocating the SFP area radiation monitoring for normal plant operations instrumentation requirements to licensee controlled documents neither physically changes the system nor modifies the manner in which it will be operated and maintained. The operational limits, applicable MODES, required ACTIONS and SRs for RaD-6418, RD-1419, RaD-6304 and PRMS R-14, will be relocated to the Turkey Point ODCM and plant procedures consistent with the existing Turkey Point TS requirements. Any future changes to the ODCM or applicable plant procedures will be subject to 10 CFR 50.59. The existing defense in depth and diversity currently described in the UFSAR with regard to the functional performance of the SFP area monitoring instrumentation will not be diminished. Hence, relocating the SFP area radioactivity - high gaseous monitoring instrumentation requirements, FU 2.a and FU 2.b, their associated notations and required ACTION 28 from TS 3/4.3.3, Table 3.3-4 and Table 4.3-3, to licensee controlled documents is appropriate.

3.3 TS 3/4.4.6, Reactor Coolant System Leakage

3.3.1 TS 3/4.4.6, RCS Leakage Detection Systems

(a) The proposed change deletes ACTION a(4) of TS 3/4.4.6, RCS Leakage Detection Systems, and the associated footnote denoted by a double asterisk (**) permitting intermittent opening of the instrument air bleed valves under administrative control.

With the Containment particulate and gaseous radiation monitoring systems inoperable, ACTION a(4) of TS 3/4.4.6 requires the Containment ventilation isolation valves to be maintained closed. Maintaining the Containment ventilation isolation valves closed is an appropriate required ACTION for the Containment ventilation isolation function, but is unrelated to RCS leakage detection. The proposed change deletes ACTION a(4) and its associated footnote from TS 3/4.4.6 since the same required ACTION is established in the newly proposed ACTION 16 of TS 3/4.3.2, Table 3.3-2. The proposed ACTION 16 of TS 3/4.3.2, Table 3.3-2 requires isolation of the Containment purge, exhaust and instrument air bleed valves when the minimum channels requirement of the Containment Radioactivity - High monitoring instrumentation, TS 3/4.3.2, Table 3.3-2, FU 3.c.4, is not met. Similar to ACTION a(4) of TS 3/4.4.6, the minimum channels requirement of FU 3.c.4 is not met when both the particulate (R-11) and gaseous (R-12) radioactivity monitoring systems are inoperable. Hence, deleting ACTION a(4) of TS 3/4.4.6 is appropriate since the same remedial measures would be established in a section of the Turkey Point TS applicable to the Containment ventilation isolation function rather than the RCS leakage detection function. In effecting the proposed change, ACTION (a) of TS 3.4.6.1 is truncated by ending ACTION a(3) with a period and deleting the conjunction “and” and the semi-colon. The proposed change is administrative in nature since the existing requirement to maintain the Containment ventilation isolation valves closed in the event the Containment particulate and gaseous monitors are inoperable would be retained in the TS. The requirement is appropriately relocated to proposed ACTION 16 of TS 3/4.3.2, Table 3.3-2, which specifically addresses the Containment ventilation isolation function initiated on Containment Radioactivity - High, thereby aligning

the required ACTIONS with the TS specified function and consequently, reducing Control Room operator burden on implementing the TS.

(b) The proposed change replaces the TS 3/4.4.6, SR 4.4.6.1.a, requirement to perform surveillance testing at the frequencies specified in TS 3/4.3.3, Table 4.3-3, with a requirement to perform the testing in accordance with the Turkey Point Surveillance Frequency Control Program (SFCP). The proposed change also deletes the unnecessary hyphen (-) between the words "System" and "performance". The proposed change is as follows:

4.4.6.1 The Leakage Detection System shall be demonstrated OPERABLE by:

Delete hyphen

a. Containment Atmosphere Gaseous and Particulate Monitoring System-performance of CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST ~~*at the frequencies specified in Table 4.3-3*~~ ***in accordance with the Surveillance Frequency Control Program****, and*

TS 3/4.4.6, SR 4.4.6.1.a , and TS 3/4.3.3, Table 4.3-3, contain duplicate CHANNEL CHECK, CHANNEL CALIBRATION, and ANALOG CHANNEL OPERATIONAL TEST surveillance requirements for the Containment atmosphere particulate (R-11) and gaseous (R-12) radioactivity monitors in MODES 1, 2, 3, and 4. However TS 3/4.4.6, SR 4.4.6.1.a, refers the user to TS 3/4.3.3.1, Table 4.3-3, for the SR frequencies. TS 3/4.3.3, Table 4.3-3, requires the SRs to be performed in accordance with the Turkey Point SFCP. The proposed change revises TS 3/4.4.6, SR 4.4.6.1.a, to also require the same surveillance testing in accordance with the Turkey Point SFCP. The proposed change to TS 3/4.4.6, SR 4.4.6.1.a, only incorporates the SR frequencies contained in TS 3/4.3.3.1, Table 4.3-3, and does not alter the technical requirements for the existing SRs. The deletion of the hyphen (-) is editorial in nature and has no impact on the manner in which the SRs are implemented. The proposed change simplifies the TS by consolidating the RCS leakage detection radioactivity monitoring requirements and thereby reduces Control Room operator burden on implementing the TS.

3.4 TS 3/4.9~~.13,~~ Refueling Operations

3.4.1 TS 3/4.9.9, Refueling Operations, Containment Venitlation Isolation System

The proposed change removes the reference to CORE ALTERATIONS in the Applicability of TS 3/4.9.9. The proposed change also replaces the SR 4.9.9 reference to CORE ALTERATIONS with "irradiated fuel movement inside the containment". The proposed change is as follows:

3.9.9 The Containment Venitlation Isolation System shall be OPERABLE.

APPLICABILITY: During ~~***CORE ALTERATIONS or***~~ movement of irradiated fuel within the containment.

4.9.9 The Containment Ventilation Isolation System shall be demonstrated OPERABLE within 100 hours prior to the start of and in accordance with the Surveillance Frequency Control

Program during ~~***CORE ALTERATIONS***~~ ***irradiated fuel movement inside the containment*** by verifying that Containment Ventilation Isolation occurs on a High Radiation test signal from each of the containment radiation monitoring instrumentation channels.

As discussed in Section 3.1.1(c) above, the proposed change is consistent with the NRC endorsed TSTF-51 and NUREG-1431, Revision 4, Volume 1, Specifications (Reference 6.2), is not applicable to the Staff's recent concern regarding TSTF-51, and is thereby reasonable.

3.4.2 TS 3/4.9.13, Refueling Operations, Radiation Monitoring

The proposed change modifies the LCO of TS 3/4.9.13, Radiation Monitoring, to delete the reference to the Control Room ventilation isolation function. The proposed change relatedly deletes ACTION (b) such that isolating the normal Control Room ventilation system and placing the CREVS in service is no longer required in the event of inoperable Containment particulate (R-11) and gaseous (R-12) radioactivity monitors during irradiated fuel movement within the Containment. Deletion of the Control Room ventilation isolation function is supported by revised analyses (see Attachment 3) which credits the Control Room air intake radiation monitors for the Control Room ventilation isolation function.

The proposed change also removes the reference to CORE ALTERATIONS in the Applicability of TS 3/4.9.13.

The proposed change is as follows:

3.9.13 The Containment Radiation monitors which initiate containment ~~and control room~~ ventilation isolation shall be OPERABLE.

APPLICABILITY: During ~~CORE ALTERATIONS or~~ movement of irradiated fuel within the containment.

ACTION:

a) With one or both radiation monitors inoperable, operation may continue provided the containment ventilation isolation valves are maintained closed.

~~*b) With one or both radiation monitors inoperable, within 1 hour isolate the Control Room Emergency Ventilation System and initiate operation of the Control Room Emergency Ventilation System in the recirculation mode.*~~

As stated in section 3.1.1.d of this license amendment request, Turkey Point's Alternate Source Term (AST) dose assessment analysis now credits the Control Room air intake radioactivity monitoring instrumentation in lieu of the Containment atmosphere radioactivity monitoring instrumentation for the Control Room ventilation isolation function. Attachment 3 summarizes the revised radiological analysis of

record for the Loss of Coolant Accident (LOCA), Rod Control Cluster Assembly (RCCA) Ejection, and Fuel Handling Accident (FHA) events. The revised analyses demonstrate that the Control Room air intake radioactivity monitoring instrumentation provides timely automatic isolation of the Control Room ventilation system and thereby limits Control Room operator doses to within regulatory limits. The revised analyses also demonstrate that with less than the limiting release and delayed (30 minutes) Control Room operator action, the resulting Control Room doses remain within regulatory limits.

Based upon the revised AST dose analyses in Attachment 3, modifying TS/LCO 3.9.13 to delete the reference to the Control Room ventilation isolation function is appropriate. Similarly, deleting ACTION (b) is appropriate since the updated AST analyses demonstrates that isolating the normal Control Room ventilation system and placing the CREVS in service is no longer necessary in the event of inoperable Containment radiation monitors during CORE ALTERATIONS or irradiated fuel movement within the Containment. The proposed change aligns TS 3.9.13 with the Turkey Point design basis.

The proposed change also removes the reference to CORE ALTERATIONS in the Applicability of TS 3/4.9.13. As discussed in Section 3.1.1(c) above, the proposed change is consistent with the NRC endorsed TSTF-51 and NUREG-1431, Revision 4, Volume 1, Specifications (Reference 6.2), is not applicable to the Staff's recent concern regarding TSTF-51, and is thereby reasonable.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements / Criteria

- 10 CFR 50.36(c)(2)(ii) states that a limiting condition for operation must be included in TS for any item meeting one or more of the following four criteria:

  (1) installed instrumentation that is used to detect, and indicate in the control room a significant abnormal degradation of the reactor coolant pressure boundary;
  (2) a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;
  (3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; and
  (4) a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

- 1967 Proposed General Design Criteria (GDC) 11 states that the facility shall be provided with a control room from which actions to maintain safe operational status of the plant can be controlled. Adequate radiation protection shall be provided to permit access even under accident conditions to equipment in the

control room or other areas as necessary to shutdown and maintain safe control of the facility without excessive radiation exposures of personnel.

- 1967 Proposed GDC 15 states that protection systems shall be provided for sensing accident situations and initiating the operation of necessary engineered safety features.

- 1967 Proposed GDC 16 states that means shall be provided to detect significant uncontrolled leakage from the reactor coolant pressure boundary.

- 1967 Proposed GDC 17 states that means shall be provided for monitoring the containment atmosphere and the facility effluent discharge paths for radioactivity released from normal operations, from anticipated transients, and from accident conditions. An environmental monitoring program shall be maintained to confirm that radioactivity released to the environs of the plant have not been excessive.

- 1967 Proposed GDC 18 requires that monitoring and alarm instrumentation shall be provided for fuel and waste storage and associated handling areas for conditions that might result in loss of capability to remove decay heat and to detect excessive radiation levels.

- 1967 Proposed GDC 19 states that protection system shall be designed for high functional reliability and in-service testability necessary to avoid undue risk to the health and safety of the public.

- 1967 Proposed GDC 53 states that penetrations that require closure for the containment functions shall be protected by redundant valving and associated apparatus.

- General Design Criteria (GDC) 17 of Appendix A to 10 CFR 50 states that means shall be provided to detect significant uncontrolled leakage from the reactor coolant pressure boundary.

- GDC 17 states that means shall be provided for monitoring the containment atmosphere and the facility effluent discharge paths for radioactivity released from normal operations, from anticipated transients, and from accident conditions. An environmental monitoring program shall be maintained to confirm that radioactivity releases to the environs of the plant have not been excessive.

- GDC 19 states that a control room shall be provided from which actions can be taken to operate the nuclear power unit safely under normal conditions and to maintain it in a safe condition under accident conditions, including loss-of-coolant accidents. Adequate radiation protection shall be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident. Equipment at appropriate locations outside the control room shall be provided

  (1) with a design capability for prompt hot shutdown of the reactor, including necessary instrumentation and controls to maintain the unit in a safe condition during hot shutdown, and

  (2) with a potential capability for subsequent cold shutdown of the reactor through the use of suitable procedures.

- Regulatory Guide 1.97, Instrumentation for Light-Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident, Revision 3, establishes the minimum number of variables to be monitored by the Control Room personnel during and following an accident.

The proposed changes comply with the requirements of 10 50.36(c)(2)(ii) and do not alter the manner in which the subject monitoring instrumentation are operated and maintained, consistent with 1967 Proposed GDC(s) 11, 15, 16, 17, 18, 19 and 53, GDC(s) 16, 17 and 19, and RG 1 .97. All applicable regulatory requirements will continue to be satisfied as a result of the proposed changes.

4.2 Significant Hazards Consideration

The proposed changes modify Technical Specifications (TS) 3.3.2, Table 3.3-2, Engineered Safety Features Actuation System Instrumentation, TS 3.3.2, Table 3.3-3, Engineered Safety Features Actuation System Instrumentation Trip Setpoints, TS 3.3.3, Tables 3.3-4 and 4.3-3, Radiation Monitoring Instrumentation for Plant Operations and Radiation Monitoring Instrumentation for Plant Operations Surveillance Requirements, TS 3.4.6.1, Reactor Coolant System Leakage Detection Systems and TS 3.9.13, Refueling Operations – Radiatlon Monitoring . The changes, which are related to instrumentation associated with Control Room ventilation isolation, Containment ventilation isolation, RCS leakage detection, and Spent Fuel Pool area monitoring eliminate non-conservative actions, align remedial measures with the specific function that is inoperable, remove duplicate requirements, clarify notations, and relocate monitoring requirements to licensee control consistent with NRC applicable rules and guidance.

In accordance with 10 CFR 50.92, Florida Power & Light Company (FPL) has concluded that the proposed changes do not involve a significant hazards consideration (SHC). The basis for the conclusion that the proposed change does not involve a SHC is as follows:

(1) Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The instrumentation associated with the proposed changes to the technical specifications (TS) is not an initiator of any accidents previously evaluated, so the probability of accidents previously evaluated is unaffected by the proposed changes. There is no change to any equipment response or accident scenario, with the exception of the Control Room isolation on Containment high-radiation instrumentation function which impose no additional challenges to fission product barrier integrity. The exception is supported by revised radiolgocial analyses which demonstrate that the Control Room air intake radioactivity monitoring instrumentation provides timely automatic isolation of the Control Room ventilation system and thereby limits Control Room operator doses to within regulatory limits for any design basis accident. The proposed changes also eliminate limitations imposed on Containment and Control Room ventilation instrumentation during CORE ALTERATIONS since the applicable postulated accidents do not result in fuel cladding integrity damage. Hence, the capability of any TS-required SSC to perform its specified safety function is not impacted by the proposed changes and the outcomes of accidents previously evaluated are unaffected. Therefore, the proposed changes do not result in a significant increase in the probability or consequences of an accident previously evaluated.

(2) Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

No new accident scenarios, failure mechanisms, or limiting single failures are introduced as a result of the proposed changes. The changes do not challenge the integrity or performance of any safety-related systems. No plant equipment is installed or removed, and the changes do not alter the design, configuration, or method of operation of any plant SSC with the exception of the Control Room isolation on Containment high-radiation instrumentation function which is supported by revised accident analyses which demonstrate that the radiological consequences remain within applicable regulatory limits. The elimination of core alterations applicability requirements do not impact the outcome of any applicable postulated accident since none result in fuel cladding damage. No physical changes are made to the plant, so no new causal mechanisms are introduced. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

(3) Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

The ability of any operable SSC to perform its designated safety function is unaffected by the proposed changes. The proposed change do not revise any safety limits or limiting safety system settings, The proposed changes revises safety analyses assumptions and the method of operating the plant with regard to the Control Room isolation on Containment high-radiation instrumentation function. The changes are supported by revised accident analyses which demonstrate that no adverse impact will result to either the plant operating margins or the reliability of equipment credited in the safety analyses. The existing margin in dose assessment currently afforded Control Room operators during any design basis accident is maintained. No other safety margins are impacted by the proposed changes. Therefore, the proposed changes do not involve a significant reduction in the margin of safety.

Based on the above, FPL concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(b), and, accordingly, a finding of “no significant hazards consideration” is justified.

4.3 Conclusion

Based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission’s regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ENVIRONMENTAL CONSIDERATION

FPL has evaluated the proposed amendment for environmental considerations. The review has determined that the proposed amendment would change a requirement with respect to

installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set for in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the proposed amendment.

6.0 REFERENCES

6.1 NRC Administrative Letter 98-10, Dispositioning of Technical Specifications That Are Insufficient to Assure Plant Safety, December 29, 1998

6.2 NUREG-1431, Standard Technical Specifications - Westinghouse Plants, Revision 4.0, Volume 1, Specifications (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12100A222))

6.3 NUREG-1431, Standard Technical Specifications - Westinghouse Plants, Revision 4.0, Volume 2, Bases (ADAMS Accession No. ML 12100A228)

6.4 FPL letter L-2010-137 to US Nuclear regulatory Commission, Revised Radiological Dose Consequences for Alternative Source Term and Conforming Amendment, June 25, 2010 (ADAMS Accession No. ML101800222)

6.5 Technical Specification Task Force (TSTF) Traveler TSTF-51, Revision 2, Revise Containment Requirements during Handling Irradiated Fuel and Core Alterations, November 1, 1999 (ADAMS Accession No. ML993190284)

6.6 Potential Issues With Plant-Specific Adoption Of Travelers TSTF -51, Revision 2, “Revise Containment Requirements During Handling Irradiated Fuel And Core Alterations,” Tstf-286, Revision 2, "Operations Involving Positive Reactivity Additions," And Tstf-471, Revision 1, “Eliminate Use Of Term Core Alterations In Actions and Notes, November 7, 2013 (ADAMS Accession No. ML13246A358)

6.7 TSTF Evaluation of NRC concerns on TSTF-51, TSTF-286, and TSTF-471, February 4, 2015 (ADAMS Accession No. ML15034A172)

6.8 Regulatory Guide 1.97, Revision 3, Instrumentation for Light-Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident, May 1983. (ML003740282)

6.9 NRC Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors, dated July 22, 1993 (58 FR 39132)

ATTACHMENT 1

PROPOSED TECHNICAL SPECIFICATION PAGES (MARKUP)

(16 pages follow)

TABLE 3.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
3. Containment Isolation (Continued)					
2) Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3, 4	16
3) Safety Injection	See Item 1. above for all Safety Injection initiating functions requirements.				
4) Containment Radioactivity-High	2##	1	1	1, 2, 3, 4	16
4. Steam Line Isolation					
a. Manual Initiation (individual)	1/operating steam line	1/operating steam line	1/operating steam line	1, 2, 3	21
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3	20
c. Containment Pressure--High-High	3	2	2	1, 2, 3	15
Coincident with: Containment Pressure--High	3	2	2	1, 2, 3	15

TABLE 3.3-2 (Continued)
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
7. Loss of Power (Continued)					
c. 480 V Load Centers 3A, 3B, 3C, 3D and 4A, 4B, 4C, 4D Degraded Voltage	2 per load center	2 on any load center	2 per load center	1, 2, 3, 4	18
8. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure	3	2	2	1, 2, 3	19
b. T_{avg} - Low	3	2	2	1, 2, 3	19
9. Control Room Ventilation Isolation					
a. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3, 4, ~~6~~**	~~16~~
b. Safety Injection	See Item 1. above for all Safety Injection initiating functions and requirements.				
~~c. Containment Radioactivity High~~ Deleted	~~2~~	~~1~~	~~1~~	~~1, 2, 3, 4, 6~~**	~~16~~
d. Containment Isolation Manual Phase A or Manual Phase B	2	1	2	1, 2, 3, 4	17
e. Control Room Air Intake Radiation Level	2	1	2	All	~~24~~

delete comma and "6"

24A, 24B

24A, 24B

Either an OPERABLE particulate radioactivity or gaseous radioactivity channel will satisfy the Minimum Channels OPERABLE requirement.

TABLE 3.3-2 (Continued)

TABLE NOTATION

Trip function may be blocked in this MODE below the Pressurizer Pressure Interlock Setpoint of 2000 psig.

 # # Channels are for particulate radioactivity and for gaseous radioactivity.

 # # # Auxiliary feedwater manual initiation is included in Specification 3.7.1.2.

 # # # # Steam Generator overfill protection is not part of the Engineered Safety Features Actuation System (ESFAS), and is added to the Technical Specifications only in accordance with NRC Generic Letter 89-19.

***** Trip function may be blocked in this MODE below the T_{avg}--Low Interlock Setpoint.

****** Only during ~~CORE ALTERATIONS or~~ movement of irradiated fuel within the containment.

ACTION STATEMENTS

ACTION 14 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 8 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.

ACTION 15 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed until performance of the next required ANALOG CHANNEL OPERATIONAL TEST or TRIP ACTUATING DEVICE OPERATIONAL TEST provided the inoperable channel is placed in the tripped condition within 6 hours.

ACTION 16 - ~~With less than the Minimum Channels OPERABLE requirement, comply with the ACTION statement requirements of Specification 3.3.3.1 Item 1a of Table 3.3-4~~.

ACTION 17 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

With the number of OPERABLE channels less than the Minimum Channels OPERABLE Requirement, operation may continue provided the Containment purge supply, exhaust and instrument air bleed valves are maintained closed. (The instrument air bleed valves may be opened intermittently under administrative controls).

TABLE 3.3-2 (Continued)

TABLE NOTATION (Continued)

ACTION 18 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the inoperable channel is placed in the tripped condition within 6 hours. Both channels of any one load center may be taken out of service for up to 8 hours in order to perform surveillance testing per Specification 4.3.2.1.

ACTION 19 - With less than the Minimum Number of Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.

ACTION 20 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 8 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 21 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.

ACTION 22 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 8 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 23 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, comply with Specification 3.0.3.

ACTION 24 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, within ~~1 hour isolate the control room Emergency Ventilation System and initiate operation of~~ the Control Room Emergency Ventilation System in the recirculation mode.

A

ACTION 25 - With number of OPERABLE channels one less than the Total number of channels, STARTUP and/or POWER OPERATION may proceed provided the inoperable channel is placed in the tripped condition within 6 hours. For subsequent required DIGITAL CHANNEL OPERATIONAL TESTS the inoperable channel may be placed in bypass status for up to 4 hours.

7 days restore the inoperable channel to OPERABLE status or place

ACTION 24B - With the number of OPERABLE channels two less than the Minimum Channels OPERABLE requirement, either:

1. Immediately place the Control Room Emergency Ventilation System in the recirculation mode with BOTH Control Room emergency recirculation fans operating, OR

2. a. Immediately place the Control Room Emergency Ventilation System in the recirculation mode with ONE Control Room emergency recirculation fan operating, AND

   b. Restore at least one inoperable channel to OPERABLE status within 7 days, 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, then be in at least HOT STANDBY within the next 12 hours and in COLD SHUTDOWN within the following 30 hours

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE	TRIP SETPOINT
3. Containment Isolation (Continued)		
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
3) Containment Pressure--High-High	≤22.6 psig	≤20.0 psig
Coincident with: Containment Pressure--High	≤4.5 psig	≤4.0 psig
c. Containment Ventilation Isolation		
1) Containment Isolation Manual Phase A or Manual Phase B	N.A.	N.A.
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
3) Safety Injection	See Item 1. above for all Safety Injection Allowable Values.	See Item 1. above for all Safety Injection Trip Setpoints.
4) Containment Radioactivity--High ~~(1)~~	Particulate (R-11) ≤6.8 x 10^5 CPM Gaseous (R-12) See Note 2	Particulate (R-11) ≤6.1 x 10^5 CPM Gaseous (R-12) See Note 2
4. Steam Line Isolation		
a. Manual Initiation	N.A.	N.A.

Delete

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	ALLOWABLE VALUE	TRIP SETPOINT
8. Engineering Safety Features Actuation System Interlocks		
a. Pressurizer Pressure	≤2018 psig	Nominal 2000 psig
b. Tavg--Low	≥542.5°F	Nominal 543°F
9. Control Room Ventilation Isolation		
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
b. Safety Injection	See Item 1. above for all Safety Injection Allowable Values.	See Item 1. above for all Safety Injection Trip Setpoints.
c. ~~Containment Radioactivity--High (1)~~ Deleted	~~Particulate (R-11) ≤6.8 x 10^5 CPM Gaseous (R-12) See Note 2~~	~~Particulate (R-11) ≤6.1 x 10^5 CPM Gaseous (R-12) See Note 2~~
d. Containment Isolation Manual Phase A or Manual Phase B	N.A.	N.A.
e. Air Intake Radiation Level	≤2.83 mR/hr	≤2 mR/hr

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM
INSTRUMENTATION TRIP SETPOINTS

Deleted

TABLE NOTATIONS

(1) ~~Either the particulate or gaseous channel in the OPERABLE status will satisfy this LCO.~~

(2) Containment Gaseous Monitor Setpoint = $\frac{(3.2 \times 10^4)}{(\quad F \quad)}$ CPM,

Containment Gaseous Monitor Allowable Value = $\frac{(3.5 \times 10^4)}{(\quad F \quad)}$ CPM,

Where F = $\frac{\text{Actual Purge Flow}}{\text{Design Purge Flow (35,000 CFM)}}$

Setpoint may vary according to current plant conditions provided that the release rate does not exceed allowable limits provided in the Offsite Dose Calculation Manual.

(3) Auxiliary feedwater manual initiation is included in Specification 3.7.1.2.

(4) Time constants utilized in lead-lag controller for Steam Generator Pressure-Low and Steam Line Pressure-Low are $\tau_1 \geq 50$ seconds and $\tau_2 \leq 5$ seconds. CHANNEL CALIBRATION shall ensure that these time constants are adjusted to these values.

If no Allowable Value is specified, as indicated by [ ], the trip setpoint shall also be the allowable value.

TABLE 4.3-2 (Continued)
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST #	MODES FOR WHICH SURVEILLANCE IS REQUIRED
8. Engineering Safety Features Actuation System Interlocks						
a. Pressurizer Pressure	N.A.	SFCP	SFCP(5)	N.A.	N.A.	1, 2, 3(3)
b. Tavg--Low	N.A.	SFCP	SFCP(5)	N.A.	N.A.	1, 2, 3(3)
9. Control Room Ventilation Isolation						
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.	(4)
b. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.					
c. ~~Containment Radioactivity High~~	~~SFCP~~	~~SFCP~~	~~SFCP~~	~~N.A.~~	~~N.A.~~	~~(4)~~
d. Containment Isolation Manual Phase A or Manual Phase B	N.A.	N.A.	N.A.	SFCP	N.A.	1, 2, 3, 4
e. Control Room Air Intake Radiation Level	SFCP	SFCP	SFCP	N.A.	N.A.	All

Deleted

Add

TABLE 4.3-2 (Continued)
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

TABLE NOTATIONS

In accordance with the Surveillance Frequency Control Program each Actuation Logic Test shall include energization of each relay and verification of OPERABILITY of each relay.

(a) If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.

(b) The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTS) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTS are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the surveillance procedures (field settings) to confirm channel performance. The NTS and methodologies used to determine the as-found and the as-left tolerances are specified in UFSAR Section 7.2

(1) Each train shall be tested in accordance with the Surveillance Frequency Control Program.

(2) Auxiliary feedwater manual initiation is included in Specification 3.7.1.2.

(3) The provisions of Specification 4.0.4 are not applicable for entering Mode 3, provided that the applicable surveillances are completed within 96 hours from entering Mode 3.

(4) Applicable in MODES 1, 2, 3, 4 or during ~~CORE ALTERATIONS or~~ movement of irradiated fuel within the containment.

(5) Test of alarm function not required when alarm locked in.

TABLE 3.3-4

RADIATION MONITORING INSTRUMENTATION FOR PLANT OPERATIONS

FUNCTIONAL UNIT	CHANNELS TO TRIP/ALARM	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	ACTION
1. Containment					
a. Containment Atmosphere Radioactivity-High (Particulate or Gaseous (See Note 1.))	1	1*	All*	Particulate $\leq 6.1 \times 10^{5}$ CPM Gaseous See Note 2.	26 for MODES 1, 2, 3, 4 or 27 for MODES 5 and 6
~~b. RCS Leakage Detection Particulate Radioactivity or Gaseous Radioactivity~~	~~N.A.~~	~~1~~	~~1, 2, 3, 4~~	~~N.A.~~	~~26~~
~~2. Spent Fuel Storage Pool Areas~~					
~~a. Unit 3 Radioactivity High Gaseous~~	~~1~~	~~1~~	~~**~~	~~$<5.5 \times 10^{-2}$ $\frac{\mu Ci}{cc}$~~	~~28~~
~~b. Unit 4 Radioactivity – High Gaseous#~~	~~1~~	~~1~~	~~**~~	~~$<2.8 \times 10^{-2}$ $\frac{\mu Ci}{cc}$ (SPING) or $<1.0 \times 10^{6}$ CPM (PRMS)~~	~~28~~

TABLE 3.3-4 (Continued)
TABLE NOTATIONS

* During ~~CORE ALTERATIONS or~~ movement of irradiated fuel within the containment, comply with Specification 3/4.9.13.

add comma

~~** With irradiated fuel in the spent fuel pits.~~

~~# Unit 4 Spent Fuel Pool Area is monitored by Plant Vent radioactivity instrumentation.~~

Note 1 Either the particulate or gaseous channel in the OPERABLE status will satisfy this LCO.

Note 2 Containment Gaseous Monitor Setpoint $= \frac{(3.2 \times 10^4)}{(F)}$ CPM,

Where $F = \frac{\text{Actual Purge Flow}}{\text{Design Purge Flow (35,000 CFM)}}$

Setpoint may vary according to current plant conditions provided that the release rate does not exceed allowable limits provided in the Offsite Dose Calculation Manual.

ACTION STATEMENTS

comply with the following:

ACTION 26 - In MODES 1 thru 4: With both the Particulate and Gaseous Radioactivity Monitoring Systems inoperable, ~~operation may continue for up to 7 days provided:~~

Table 3.3-2, ACTION 16, and

1) ~~A Containment sump level monitoring system is OPERABLE,~~

2) ~~Appropriate grab samples are obtained and analyzed at least once per 24 hours,~~

3) ~~A Reactor Coolant System water inventory balance is performed at least once per 8*** hours except when operating in shutdown cooling mode, and~~

4) ~~Containment Purge, Exhaust and Instrument Air Bleed Valves are maintained closed.****~~

~~Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours (ACTION 27 applies in MODES 5 and 6).~~

Technical Specification 3.4.6.1, ACTION a.

~~*** Not required to be performed until 12 hours after establishment of steady state operation.~~

~~**** Instrument Air Bleed Valves may be opened intermittently under administrative controls.~~

TABLE 3.3-4 (Continued)

ACTION STATEMENTS (Continued)

ACTION 27 - In MODES 5 or 6 (except during ~~CORE ALTERATION or~~ movement of irradiated fuel within the containment): With the number of OPERABLE Channels less than the Minimum Channels OPERABLE requirement perform the following:

1) Obtain and analyze appropriate grab samples at least once per 24 hours, and

2) Monitor containment atmosphere with area radiation monitors.

Otherwise, isolate all penetrations that provide direct access from the containment atmosphere to the outside atmosphere.

During ~~CORE ALTERATION or~~ movement of irradiated fuel within the containment: With the number of OPERABLE Channels less than the Minimum Channels OPERABLE requirements, comply with ACTION statement requirements of Specification 3.9.9 and 3.9.13.

~~ACTION 28 - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, immediately suspend operations in the Spent Fuel Pool area involving spent fuel manipulations.~~

TABLE 4.3-3
RADIATION MONITORING INSTRUMENTATION FOR PLANT
OPERATIONS SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Containment				
a. Containment Atmosphere Radioactivity--High	SFCP	SFCP	SFCP	All
~~b. RCS Leakage Detection~~				
~~1) Particulate Radioactivity~~	~~SFCP~~	~~SFCP~~	~~SFCP~~	~~1, 2, 3, 4~~
~~2) Gaseous Radioactivity~~	~~SFCP~~	~~SFCP~~	~~SFCP~~	~~1, 2, 3, 4~~
~~2. Spent Fuel Pool Areas~~				
~~a. Unit 3 Radioactivity--High Gaseous~~	~~SFCP~~	~~SFCP~~	~~SFCP~~	~~*~~
~~b. Unit 4 (Plant Vent) Radioactivity--High Gaseous# (SPING and PRMS)~~	~~SFCP~~	~~SFCP~~	~~SFCP~~	~~*~~

~~TABLE NOTATIONS~~

~~* With irradiated fuel in the fuel storage pool areas.~~

~~# Unit 4 Spent Fuel Pool Area is monitored by Plant Vent radioactivity instrumentation.~~

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System Leakage Detection Systems shall be OPERABLE:

a. The Containment Atmosphere Gaseous or Particulate Radioactivity Monitoring System, and

b. A Containment Sump Level Monitoring System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With both the Particulate and Gaseous Radioactivity Monitoring Systems inoperable, operation may continue for up to 7 days provided:

1) A Containment Sump Level Monitoring System is OPERABLE;

2) Appropriate grab samples are obtained and analyzed at least once per 24 hours;

3) A Reactor Coolant System water inventory balance is performed at least once per 8* hours except when operating in shutdown cooling mode~~; and~~ .

4) ~~Containment Purge, Exhaust and Instrument Air Bleed valves are maintained closed.~~ **

Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With no Containment Sump Level Monitoring System operable, restore at least one Containment Sump Level Monitoring System to OPERABLE status within 7 days, or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.6.1 The Leakage Detection System shall be demonstrated OPERABLE by:

Delete hyphen (-)

a. Containment Atmosphere Gaseous and Particulate Monitoring System-performance of CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST ~~at the frequencies specified in Table 4.3-3~~, and

b. Containment Sump Level Monitoring System-performance of CHANNEL CALIBRATION in accordance with the Surveillance Frequency Control Program.

in accordance with the Surveillance Frequency Control Program

* Not required to be performed until 12 hours after establishment of steady state operation.

** ~~Instrument Air Bleed valves may be opened intermittently under administrative controls.~~

REFUELING OPERATIONS

3/4.9.9 CONTAINMENT VENTILATION ISOLATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.9 The Containment Ventilation Isolation System shall be OPERABLE.

APPLICABILITY: During ~~CORE ALTERATIONS or~~ movement of irradiated fuel within the containment.

ACTION:

a. With the Containment Ventilation Isolation System inoperable, close each of the containment ventilation penetrations providing direct access from the containment atmosphere to the outside atmosphere.

b. The provisions of Specification 3.0.3 are not applicable.

movement of irradiated fuel inside the containment

SURVEILLANCE REQUIREMENTS

4.9.9 The Containment Ventilation Isolation System shall be demonstrated OPERABLE within 100 hours prior to the start of and in accordance with the Surveillance Frequency Control Program during ~~CORE ALTERATIONS~~ by verifying that Containment Ventilation Isolation occurs on a High Radiation test signal from each of the containment radiation monitoring instrumentation channels.

REFUELING OPERATIONS

3/4.9.13 RADIATION MONITORING

LIMITING CONDITION FOR OPERATION

3.9.13 The Containment Radiation monitors which initiate containment ~~and control room~~ ventilation isolation shall be OPERABLE.

APPLICABILITY: During ~~CORE ALTERATIONS or~~ movement of irradiated fuel within the containment.

ACTION:

a) With one or both radiation monitors inoperable, operation may continue provided the containment ventilation isolation valves are maintained closed.

~~b) With one or both radiation monitors inoperable, within 1 hour isolate the Control Room Emergency Ventilation System and initiate operation of the Control Room Emergency Ventilation System in the recirculation mode.~~

SURVEILLANCE REQUIREMENTS

4.9.13 Each Containment Radiation monitor shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST at the frequencies shown in Table 4.3-3.

ATTACHMENT 2

PROPOSED TECHNICAL SPECIFICATION BASES PAGES (MARKUP)

(6 pages follow)

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Technical Specification Bases
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3/4.3.1 & 3/4.3.2 (Continued)

For Table 3.3-2 Functional Unit (FU) 6.e, ACTION 23(b) establishes that if a FU 6.e channel is inoperable, 48 hours are allowed to return the channel to an OPERABLE status. If the FU 6.e channel can **NOT** be returned to an OPERBLE status within 48 hours, then the next 6 hours are allowed to place the Unit in MODE 3. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging Unit systems. In MODE 3, the Unit does **NOT** have analyzed transients or conditions that require the explicit use of the protection functions noted above.

INSERT 1 →

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3/4.3.3 Monitoring Instrumentation

3/4.3.3.1 Radiation Monitoring for Plant Operations

The OPERABILITY of the radiation monitoring instrumentation for plant operations ensures that conditions indicative of potential uncontrolled radioactive releases are monitored and that appropriate actions will be automatically or manually initiated when the radiation level monitored by each channel reaches its alarm or trip setpoint.

INSERT 2 →

~~In MODES 1-4, with both the Particulate and Gaseous Radioactivity Monitoring Systems inoperable, the isolation valves in the Containment Purge Supply and Exhaust and Instrument Air Bleed flow paths are required to be maintained closed in order to allow continued operation for up to 7 days. A note permits the instrument air flow path to be opened under administrative control in order to maintain the containment internal pressure within specified limits since it is relatively small in size and easily isolated either automatically by a safety injection signal or manually by the operator monitoring containment conditions while the valves are open.~~

3/4.3.3.2 Movable Incore Detectors

The OPERABILITY of the Movable Incore Detectors with the specified minimum complement of equipment ensures that the measurements obtained from use of this system accurately represent the spatial neutron flux distribution of the core. The OPERABILITY of this system is demonstrated by irradiating each detector used and determining the acceptability of its voltage curve.

For the purpose of measuring $F_Q(Z)$ or $F^N_{\Delta H}$ a full Incore flux map is used. Quarter-core flux maps, as defined in WCAP-8648, June 1976 or in the Westinghouse Single Point Calibration Technique, may be used in recalibration of the Excore Neutron Flux Detection System, and full incore flux maps or symmetric incore thimbles may be used for monitoring the QUADRANT POWER TILT RATIO when one Power Range Channel is inoperable.

INSERT 1

Table 3.3-2, Functional Unit 9.e requires OPERABLE Control Room air intake radiation monitors during all MODES. Consistent with the Turkey Point licensing basis for a fuel handling accident (FHA) outside Containment, the Control Room air intake radiation monitors must be OPERABLE in MODE 5 in order to alert operators to manually initiate the Control Room emergency ventilation system (CREVS) within 30 minutes. However, OPERABLE actuation instrumentation (Functional Unit 9.a) is not required in MODE 5.

ACTION 16 applies to Containment Ventilation Isolation Functional Units 3.c.2 and 3.c.4 with the Minimum Channels Operable requirement not met. The Action allows continued operation provided the Containment purge, exhaust, and instrument air bleed valves are maintained closed. ACTION 16 permits the instrument air flow path to be opened under administrative control in order to maintain the containment internal pressure within specified limits since it is relatively small in size and easily isolated either automatically by a safety injection signal or manually by the operator monitoring containment conditions while the valves are open.

ACTION 24A applies when one channel of automatic actuation logic and actuation relays (functional unit 9.a) or one channel of Control Room air intake radiation level (functional unit 9.e) is inoperable. ACTION 24A provides seven days to isolate and initiate operation of the CREVS in the recirculation mode. Seven days is consistent with the completion time specified in TS 3.7.5, Control Room Emergency Ventilation System, to restore an inoperable redundant component before a plant shutdown is required and is acceptable considering the low probability of occurrence of a design basis accident during the period and the availability of the redundant instrumentation. Isolating and operating the CREVS in the recirculation mode accomplishes the function performed by the actuation instrumentation and places the plant in a conservative mode of operation.

ACTION 24B applies when both of the required channels of automatic actuation logic and actuation relays (functional unit 9.a) or both channels of Control Room air intake radiation level (functional unit 9.e) are inoperable. ACTION is required to immediately isolate the normal Control air intake and exhausts and initiate operation of the CREVS in the recirculation mode. Aligning the CREVS in this configuration accomplishes the function performed by the actuation and radiation monitoring instrumentation and places the plant in a conservative mode of operation. With the CREVS in the recirculation mode with both redundant recirculation fans operating, operation would continue in the presence of a single active failure. With the CREVS in the recirculation mode with only one recirculation fans operating, at least one of the inoperable Control Room automatic actuation logic and actuation relay channels (functional unit 9.a) or inoperable Control Room air intake radiation level channels (functional unit 9.e), as appropriate, must be restored to OPERBLE status before a plant shutdown would be required. Seven days is acceptable considering that the normal Control Room air intake and exhausts are isolated, the CREVS is operating in the recirculation mode and the low probability of occurrence of a design basis accident during the period.

INSERT 2

Simultaneous inoperability of the Containment atmosphere particulate and gaseous radioactivity monitors systems impacts RCS leakage detection (TS 3.4.6.1), and the Containment ventilation isolation functions in TS 3.3.2. ACTION 26 requires complying with the ACTION(s) for the functions affected by the inoperable radiation monitoring systems.

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3/4.4.5 (Continued)

4. ASME Boiler and Pressure Vessel Code, Section III, Subsection NB

5. Draft Regulatory Guide 1.121, Bases for Plugging Degraded PWR Steam Generator Tubes, August 1976

6. EPRI Pressurized Water Reactor Steam Generator Examination Guidelines

7. 10 CFR 50.67, Accident Source Term

3/4.4.6 Reactor Coolant System Leakage

3/4.4.6.1 Leakage Detection Systems

The RCS Leakage Detection Systems required by this specification are provided to monitor and detect leakage from the reactor coolant pressure boundary to the containment. The containment sump level system is the normal sump level instrumentation. The Post Accident Containment Water Level Monitor - Narrow range instrumentation also functions as a sump level monitoring system. In addition, gross leakage will be detected by changes in makeup water requirements, visual inspection, and audible detection. Leakage to other systems will be detected by activity changes (e.g., within the component cooling system) or water inventory changes (e.g., tank levels).

~~In Modes 1-4, with both the Particulate and Gaseous Radioactivity Monitoring Systems inoperable, the isolation valves in the Containment Purge Supply and Exhaust and Instrument Air Bleed flow paths are required to be maintained closed in order to allow continued operation for up to 7 days. A note permits the instrument air flow path to be opened under administrative control in order to maintain the containment internal pressure within specified limits since it is relatively small in size and easily isolated either automatically by a safety injection signal or manually by the operator monitoring containment conditions while the valves are open.~~

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3/4.9.9 Containment Ventilation Isolation System

The OPERABILITY of this system ensures that the containment ventilation penetrations will be automatically isolated upon detection of high radiation levels within the containment. The OPERABILITY of this system is required to restrict the release of radioactive material from the containment atmosphere to the environment.

T.S. surveillance requirement 4.9.9 states:

irradiated fuel movement inside the containment

4.9.9 The Containment Ventilation Isolation System shall be demonstrated OPERABLE within ~~100~~ hours prior to the start of and in accordance with the Surveillance Frequency Control Program during ~~CORE ALTERATIONS~~ by verifying that Containment Ventilation Isolation occurs on a High Radiation test signal from each of the containment radiation monitoring instrumentation channels.

A normal refueling consists of ~~2 CORE ALTERATION sequences:~~ unloading ~~the core,~~ and reloading the core~~, typically with a suspension of CORE ALTERATIONS in between~~. The core unload sequence begins with control rod unlatching, followed by removal of upper internals, followed by unloading fuel assemblies to the SFP. The core reload sequence consists of reloading fuel assemblies from the SFP, followed by upper internals installation, followed by latching control rods. Therefore, if the Containment Ventilation Isolation System is demonstrated OPERABLE in accordance with the Surveillance Frequency Control Program following the specified testing within 100 hours prior to the start of ~~control rod unlatching,~~ then Containment Ventilation Isolation System operability need **NOT** be demonstrated within 100 hours prior to the start of core reload. Otherwise, the specified testing is required to be performed within 100 hours prior to the start of core reload.

irradiated fuel movement inside the containment.

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3/4.9.10
&
3/4.9.11 Water Level – Reactor Vessel and Storage Pool

The restrictions on minimum water level ensure that sufficient shielding will be available during fuel movement and for removal of iodine in the event of a fuel handling accident. The minimum water depth is consistent with the assumptions of the safety analysis.

3/4.9.12 Deleted

3/4.9.13 Radiation Monitoring

The OPERABILITY of the containment radiation monitors ensures continuous monitoring of radiation levels to provide immediate indication of an unsafe condition.

ADD → In the event one or both Containment radiation monitors are inoperable, operation may continue provided the Containment purge supply, exhaust and instrument air bleed valves are maintained closed. Closing the Containment purge supply, exhaust and instrument air bleed valves performs the function of the inoperable Containment radiation monitor(s) and thereby places the Unit in a safe condition.

ATTACHMENT 3

NUMERICAL APPLICATIONS NAI-1983-001, REVISED TURKEY POINT AST DOSE ASSESSMENT WITHOUT CREDIT CONTAINMENT RADIATION MONITORS, REVISION 1

(11 pages follow)

NAI Report Release

Report Number: NAI-1983-001

Revision Number: 0

Title: Revised Turkey Point AST Dose Assessment without Credit for Containment Atmospheric Particulate/Gaseous Radiation Monitors

Client: Florida Power and Light – Turkey Point

Description:

This report presents the results of the radiological analyses performed assuming removal of credit for the Containment Radiation Monitors (R-11 and R-12) to provide the Control Room Isolation. The Fuel Handling Accident and the Rod Cluster Control Assembly (RCCA) Ejection credited the Containment Radiation Monitors for Automatic Control Room Isolation for the containment release scenarios. These radiological analyses are revised to credit the Control Room Intake Radiation Monitors (Rad 6642 and 6643) to provide control room isolation (recirculation mode).

Author — Date: 6/19/2017

Mervin Marshall

Reviewer — Date: 6/19/2017

Steve Thomasson

Project Manager — Date: 6-19-17

Jim Harrell

NAI Management — Date: 19 June 2017

Steve Winter

Check items in the following lists to verify that project documentation and engineering calculations that relate to this report are complete. It is the responsibility of the Report Author and Reviewer to confirm that the required Project documentation is complete to the extent necessary to cover the release of this Report. The Report Author is responsible for archiving the report and the supporting documents. Mark any items that are not applicable as N/A.

Yes	N/A	Project Documentation Checklist
☒	☐	Project QA Plan.
☒	☐	Project Engineer Training and Qualification Forms for engineers involved with this report.
☒	☐	Project QA Training Certification Forms for engineers involved with this report.
☒	☐	Reports utilizing software evaluated against identified code errors for potential impact on the analysis.
☒	☐	Supporting documents reviewed and signed.
☒	☐	Model parameters reviewed for references/assumptions, documentation, and checked against cited value.
☒	☐	Review Summary Report completed, including NAI review scope, comments and resolution, and client comments and resolution.
☒	☐	Report complies with relevant Purchase Order QA requirements.
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1.0 Radiological Consequences Utilizing the Alternative Source Term Methodology

1.1 Introduction

The Updated Final Safety Analysis Report (UFSAR) cites the Containment Atmospheric Particulate/Gaseous Radiation monitors, the Control Room (CR) Intake Radiation monitors, and the Safety Injection signal as three potential signals to actuate the automatic Control Room Ventilation System Isolation. This report presents the results of the radiological assessments performed to demonstrate the impact of eliminating the credit for the containment radiation monitors to provide the CR isolation signal and alternatively crediting the CR intake radiation monitors to provide CR isolation for the scenarios with assumed release in containment.

This report presents the changes to the radiological Analysis of Record (AOR) as reflected in the UFSAR (Reference 3.1) as a result of the revised radiological analysis eliminating the credit for the Containment Radiation Monitors for the Loss of Coolant Accident (LOCA), Rod Control Cluster Assembly (RCCA) Ejection, and Fuel Handling Accident (FHA) events.

1.2 Evaluation Overview and Objective

As documented in Reference 3.1 and 3.3, the current Turkey Point licensing basis for radiological consequences analyses of accidents discussed in Chapter 14 of the Updated Final Safety Analysis Report (UFSAR) is based on methodologies and assumptions consistent with application of an Alternative Source Term (AST) using guidance provided in Regulatory Guide 1.183 using the RADTRAD-NAI dose computation code. The analyses used to produce the updated results provided herein remain fully consistent with the guidance and methodology presented in Reference 3.3 and approved via Reference 3.4 as currently revised under the provisions of 10CFR50.59 and reflected in the UFSAR as discussed below:

- **Compliance with Regulatory Guidelines** - Compliance with Regulatory Guide remains unchanged.
- **Radiological Evaluation Methodology –** Methodology is unchanged.
- **Control Room Ventilation System** – System performance parameters are unchanged
- **Control Room Dose Calculation Model** – RADTRAD Dose Calculation Modeling is unchanged.
- **Radiation Source Terms** – Event-specific source terms are unchanged.
- **Atmospheric Dispersion Factors –** Onsite and Off-site *X/Q* factors remain unchanged.

- **Direct Shine Dose** – Consistent with the AOR, the LOCA shine dose contribution is assumed to be bounding for all other events.

Analyses were performed for the FHA and RCCA Ejection events to demonstrate that the CR intake radiation monitors provided timely automatic isolation of the CR ventilation system to ensure CR operator doses remained within acceptance criteria.

Additionally, consistent with the Turkey Point UFSAR (AST) analysis (Reference 3.3 and 3.1), supplemental analyses were also performed for scenarios to investigate a postulated reduced radiological release that would not produce sufficient dose at the CR Intake monitor to trigger automatic CR isolation. A 30 minute CR manual isolation was assumed for such cases. These results demonstrate that with less than the limiting release and delayed operator action, the resulting doses remain within regulatory limits.

1.3 Licensing Basis Changes

The changes addressed in this report are limited to the changes to the licensing basis radiological analyses resulting specifically from the elimination of credit assumed for the use of the Containment Radiation monitors in the current Radiological AOR as reflected in the UFSAR. The changes to radiological dose assessment resulting from elimination of credit for the containment radiation monitors are presented in Table 2-3 of this report.

The radiological analyses that credit the Containment Radiation Monitors (R11 and R12) for automatic Control Room (CR) isolation include the following events:

- LOCA Event (UFSAR Section 14.3.5)
- RCCA Ejection with containment release (UFSAR Section 14.2.6)
- Fuel Handling Accident in containment (UFSAR Section 14.2.1)

The LBLOCA event does not need to be reanalyzed because the Safety Injection signal will provide a Containment Ventilation and CR isolation signal within the same time as assumed in the current UFSAR. Therefore there was no impact on the LOCA dose assessment.

The RCCA Ejection release to containment and the FHA in containment have been re-analyzed to demonstrate that CR isolation based upon the CR intake radiation monitors provide adequate response to produce CR operator doses below the acceptance criteria.

1.4 Computer Codes

The following computer codes were used in performing the AST analysis reported in the UFSAR.

Computer Code	Purpose
ARCON96	Atmospheric Dispersion Factors
MicroShield	Direct Shine Dose Calculations
ORIGEN	Core Fission Product Inventory
PAVAN	Atmospheric Dispersion Factors
GOTHIC	Containment Mixing
RADTRAD-NAI	Radiological Dose Calculations

Of the above listed codes and applications, only the RADTRAD-NAI code for the event-specific Radiological Dose Calculation was employed to re-assess the impact of the change on the dose consequences. RADTRAD-NAI estimates the radiological doses at offsite locations and in the control room of nuclear power plants as a consequence of postulated accidents. The code considers the timing, physical form (i.e., vapor or aerosol) ,chemical species and release paths of the radioactive material released into the environment.

The revised analyses used the updated RADTRAD-NAI version 1.2 (QA) of the code (Reference 3.2). The current UFSAR analysis used version 1.1a (QA). The differences between this updated code version and the version used in the current UFSAR analysis of these events is limited to:

- upgrades of the web interface,
- the addition of modeling features (not employed in these events) and
- more consistent treatment of double and single precision variables (the latter of which may lead to some slight last decimal place difference in results).

The upgraded version of the code was extensively and systematically tested as part of the implementation version upgrade and demonstrated to produce essentially equivalent results to the prior version used for current UFSAR analysis of these events. In addition, as part of this specific analysis, the v1.2 (QA) code version was benchmarked against the prior UFSAR analysis for the dominant pathway dose contributor for the RCCA Ejection Containment release to demonstrate the equivalency of the code versions in this application. The benchmark demonstrated that the updated version gave identical final dose results to the UFSAR analysis within the 5 significant digits reported by RADTRAD-NAI. Based upon the nature of the changes and demonstrated equivalency of the results, the use of the updated RADTRAD-NAI version is not considered a change to the methodology.

2.0 Radiological Consequences – Event Analyses

The impact of crediting the control room intake radiation monitor instead of the containment radiation monitors is addressed below.

2.1 Rod Cluster Control Assembly (RCCA) Ejection

2.1.1 Background

This event is described in the UFSAR, Section 14.2.6. This event consists of the ejection of a single RCCA. This event is the same as the Rod Ejection event referred to in Reg. Guide 1.183. The RCCA Ejection results in a reactivity insertion that leads to a core power level increase and subsequent reactor trip. Two RCCA Ejection cases are considered separately for a release of the failed fuel activity via the secondary side steam release and alternatively for a release into the containment atmosphere.

The secondary side release case assumes that 100% of the activity released from the damaged fuel is completely dissolved in the primary coolant and leaks into the secondary side where it is available for release to the environment via the secondary system steam release. The current secondary release UFSAR AOR relies on the CR Intake Radiation Monitor to accomplish timely CR Isolation. This analysis as documented in the current UFSAR also investigated the dose associated with an assumed reduced activity release that does not actuate the CR Radiation Monitor isolation setpoint. Instead, it relies upon operators manually isolating the CR in 30 minutes. Neither the automatic nor manual CR isolation case credit the containment radiation monitor and, therefore, these secondary release cases are not impacted by the change addressed here.

The RCCA Ejection Containment release scenario assumes that 100% of the activity released from the damaged fuel is instantaneously and homogeneously mixed throughout the containment atmosphere. This case originally credited initiation of CR isolation and recirculation based upon a high radiation signal from the Containment Radiation Monitors. This revised analysis replaces the reliance upon the containment radiation monitor with credit for the redundant safety-related CR Intake Radiation monitors to perform an automatic CR isolation function just like the secondary release cases.

2.1.2 RCCA Ejection – Containment Release Event Analysis

Input assumptions used in the dose consequence analysis of the RCCA Ejection are provided in Table 2-2. The analytical treatment of the radiological release is identical to that assumed in the current UFSAR with the changes only as necessary to address the manual isolation timing and corresponding source term reduction as discussed below.

For the new Containment Release cases, the Control Room is isolated on a high radiation reading at the CR normal intake monitors. A 60 second delay is applied to account for the time to reach

the setpoint (30 seconds), signal processing, and damper closure time for the automatic CR isolation case. Previously the isolation conservatively assumed 60 seconds.

As was done previously when crediting the CR intake radiation monitors, an additional case was performed which combined a reduced source term with a 30 minute control room isolation time. Offsite doses consequences are obviously lower so they were not analyzed.

2.1.3 Radiological Consequences

Since the CR Intake Radiation Monitors were shown to accomplish automatic CR isolation within the same time assumed in the current RCCA Ejection (containment release) AOR, the automatic isolation case dose results remain unchanged and a CR dose is not presented in Table 2-3.

The supplemental analysis performed to assess the potential impact of reliance on 30 minute manual CR isolation for a release assuming a reduced activity that does not produce the CR isolation signal at the CR Intake Monitor was performed. The radiological consequences of the RCCA Ejection are analyzed using the RADTRAD-NAI code and the inputs and assumptions previously discussed. As shown in Table 2-3, the CR dose result of the manual isolation case for Control Room dose remains within the appropriate regulatory acceptance criteria.

2.2 Fuel Handling Accident (FHA)

2.2.1 Background

This event consists of the drop of a single fuel assembly either in the Fuel Handling Building (FHB) or inside of Containment. The FHA is described in Section 14.2.1.2 of the UFSAR. The UFSAR description of the FHA specifies a case that assumes all of the fuel rods in a single fuel assembly are damaged.

This analysis considers both a dropped fuel assembly inside the containment with the equipment hatch open, and an assembly dropped inside the FHB without credit for filtration of the Fuel Handling Building exhaust, however, only the case for release in the containment is impacted by the change to eliminate credit for the Containment Radiation Monitors to affect automatic CR isolation.

This event originally credited initiation of CR isolation and recirculation based upon a high radiation signal from the Containment Radiation Monitors. The revised analyses replaces the reliance upon the containment radiation monitor with credit for the redundant safety-related CR Intake Radiation monitors to perform an automatic CR isolation function.

2.2.2 FHA – Containment Release Analysis

Input assumptions used in the dose consequence analyses of the FHA are provided in Table 2-1.

The FHA as documented the UFSAR is evaluated with the assumption that all of the fuel rods in a single fuel assembly are damaged using the RADTRAD-NAI code with the model used in the current AOR with the changes only as necessary to address the manual isolation timing and corresponding source term reduction as discussed below.

For the new Containment Release cases, the Control Room is isolated on a high radiation reading at the CR normal intake monitors. A 60 second delay is applied to account for the time to reach the setpoint (30 seconds), signal processing, and damper closure time for the automatic CR isolation case. Previously the isolation conservatively assumed 30 seconds.

As was done previously when crediting the CR intake radiation monitors, an additional case was performed which combined a reduced source term with a 30 minute control room isolation time. Offsite doses consequences are obviously lower so they were not analyzed.

As discussed in Section 2.2.1 the Fuel Handling Building release case is not impacted by changes to the Containment Radiation Monitors.

The Containment Release case was analyzed for both automatic CR isolation and an assumed 30 minute delayed manual isolation for a case that does not produce activity sufficient to actuate automatic isolation.

2.2.3 Radiological Consequences

Since the reliance on the CR Intake Radiation Monitors was shown to accomplish automatic CR isolation with an addition 30 second delay above that time assumed in the current FHA (containment release) analysis, the automatic isolation case produce a slightly greater CR dose which still remained well within the CR dose limit. The results of that case for both the UFSAR analysis and the proposed analysis are shown in Table 2-3.

The supplemental analysis performed to assess the potential impact of reliance on 30 minute manual CR isolation for a release assuming a reduced activity that does not produce the CR isolation signal at the CR Intake Monitor was performed. The radiological consequences of the FHA (in containment) are analyzed using the RADTRAD-NAI code and the inputs/assumptions previously discussed. As shown in Table 2-3, the results of the manual isolation case for Control Room dose are all within the appropriate regulatory acceptance criteria.

Since the change addressed here only effects CR isolation, only the CR operator doses are impacted and shown in the results table.

2.4 Technical Support Center Radiological Dose Impact

The dose assessment for the Technical Support Center was reviewed for impact due to the elimination of the credit for the containment radiation monitor. That review confirmed that the

current LOCA event dose assessment remained limiting for the TSC. No changes in doses are reported.

Table 2-1 Fuel Handling Accident (FHA) – Inputs and Assumptions

* **Bold Type** below designates Changes from UFSAR AOR (Reference 3.1)

Input/Assumption	Value
Core Power Level Before Shutdown	2652 MW_{th}
Discharged Fuel Assembly Burnup	45,000 MWD/MTU
Fuel Enrichment	3.0 – 5.0 w/o
Radial Peaking Factor	1.65
Number of Fuel Assemblies Damaged Automatic CR Isolation - Design Basis **Manual CR Isolation –Reduced Release**	 1 Assembly **0.08 Assembly**
Release Fraction from Breached Fuel	UFSAR Table 14.2.1-1
Delay Before Spent Fuel Movement	72 hours
Release Duration	2 hours
FHA Source Term for a Single Assembly	UFSAR Table 14.2.1-2
Water Level Above Damaged Fuel Assembly	23 feet minimum
Iodine Decontamination Factors	Elemental – 285 Organic – 1
Noble Gas Decontamination Factor	1
Chemical Form of Iodine In Pool	Elemental – 99.85% Organic – 0.15%
Atmospheric Dispersion Factors Offsite Onsite	 UFSAR Appendix 2E UFSAR Appendix 2F
Control Room Ventilation System **Containment Release** Auto Isolation on CR Intake Monitor **Manual Isolation with Reduced Source to 8% of Design Release**	 **60 seconds** **30 minutes for Manual Isolation**
Unfiltered Inleakage	100 cfm
Breathing Rates	Reg. Guide 1.183 Sections 4.1.3 and 4.2.6
Control Room Occupancy Factor	Reg. Guide 1.183 Section 4.2.6

Table 2-2 RCCA Ejection Containment Release – Inputs and Assumptions

* **Bold Type** below designates Changes from UFSAR AOR (Reference 3.1)

Input/Assumption	Value
Core Power Level	2652 MW_{th}
Core Average Fuel Burnup	45,000 MWD/MTU
Fuel Enrichment	3.0 –5.0 w/o
Radial Peaking Factor	1.65
Percent of Core in DNB Design Basis Scenario **Manual CR Isolation – Containment Release Case**	 10 % **2.31 %**
Percent of Core with Centerline Melt Design Basis Scenario **Manual CR Isolation – Containment Release Case**	 0.25 % **0.05775 %**
Gap Release Fraction	Reg. Guide 1.183, Appendix H, Position 1
Core Fission Product Inventory	UFSAR Table 14.3.5-7
Initial Secondary Side Equilibrium Iodine Activity	0.1 μCi/gm DE I-131 (Table 1.7.3-1)
Release From DNB Fuel	Section 1 of Appendix H to RG 1.183
Release From Fuel Centerline Melt Fuel	Section 1 of Appendix H to RG 1.183
Chemical Form of Iodine Released to Containment	Particulate – 95% Elemental – 4.85% Organic – 0.15%
Atmospheric Dispersion Factors Offsite Onsite	 UFSAR Appendix 2E UFSAR Appendix 2F
Control Room Ventilation System Time of Auto CR Isolation - Containment Release **Time of Manual CR Isolation - Containment**	 60 seconds - High Rad on CR Intake Monitor **30 Minutes - Manual Isolation**
Unfiltered Inleakage	100 cfm
Breathing Rates	Reg. Guide 1.183 Sections 4.1.3 and 4.2.6
Control Room Occupancy Factor	Reg. Guide 1.183 Section 4.2.6
Containment Volume	1.60E+06 ft^3
Containment Leakage Rate 0 to 24 hours after 24 hours	 0.20% (by weight)/day 0.10% (by weight)/day
Containment Natural Deposition Coefficients	Aerosols – 0.1 hr^{-1} Elemental Iodine – 5.58 hr^{-1} Organic Iodine – None

Table 2-3 Control Room Dose Summary

Impact of Reliance on CR Intake Monitor for CR Isolation

Dose Contribution	TEDE Dose (rem)	
	Current FSAR CR 30-Day-Dose	**Proposed CR 30-Day-Dose**
AUTOMATIC ISOLATION		
FHA in Containment	**1.22**	1.44
MANUAL ISOLATON		
RCCA Ejection in Containment	**N/A**	4.43
FHA in Containment	**N/A**	1.75
Acceptance Criteria		***5***

Control Room Unfiltered Inleakage = 100 cfm
Automatic Control Room Isolation Time = 60 seconds
Manual Control Room Isolation Time = 30 minutes
Includes 0.728 rem Direct Shine Dose (from LOCA analysis)

3.0 References

3.1 Turkey Point Units 3 and 4 Updated FSAR, Electronic Version, UFSAR_429_2.pdf provided on 1/31/2017.

3.2 NAI-9912-04, Revision 6, RADTRAD-NAI Release Version 1.2(QA) Documentation, April, 2015.

3.3 M. Kiley (FPL) to US Nuclear regulatory Commission (L-2010-137) "Revised Radiological Dose Consequences for Alternative Source Term and Conforming Amendment," June 25, 2010.

3.4 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), June 23, 2011.