



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

February 1, 2001
NOC-AE-01001022
File No.: G20.02.01
G21.02.01
Page 1

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

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Supplement To:
Proposed Amendment to South Texas Project Technical Specifications to
Modify Requirements Applicable When Actions Require
No Positive Reactivity Additions

STP Nuclear Operating Company (STPNOC) submits this supplement to NOC-AE-000394, dated December 20, 2000, which proposed to amend South Texas Project Operating Licenses NPF-76 and NPF-80 by incorporating the changes attached to that correspondence. The proposed changes revise the Technical Specification and Technical Requirements Manual requirements applicable when actions direct suspension of operations involving positive reactivity additions.

This supplement is submitted to correct administrative and typographical errors identified in discussions with the Nuclear Regulatory Commission's Project Manager responsible for processing the amendment. Attachment 2 provides updated/corrected pages to replace the corresponding pages in the original proposed amendment.

In accordance with 10 CFR 50.91(b), STPNOC is notifying the State of Texas of this request for license amendment by providing a copy of this letter and its attachments.

The changes are administrative and do not affect the evaluations previously submitted. This submittal letter contains no new licensing commitments.

If there are any questions regarding the proposed amendment or this supplement, please contact Mr. S. M. Head at (361) 972-7136 or me at (361) 972-8757.

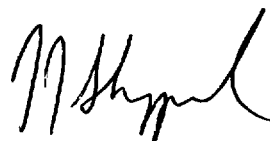
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Page 2

A handwritten signature in black ink, appearing to read 'J. J. Sheppard', with a stylized, cursive script.

J. J. Sheppard
Vice President, Engineering
& Technical Services

WRB/

Attachments:

1. Affidavit
2. Updated/ corrected pages for NOC-AE-000394

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

ATTACHMENT 1

AFFIDAVIT

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)

STP Nuclear Operating Company)

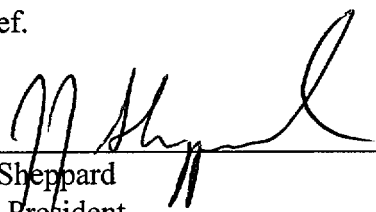
Docket Nos. STN 50-498

STN 50-499

South Texas Project Units 1 and 2)

AFFIDAVIT

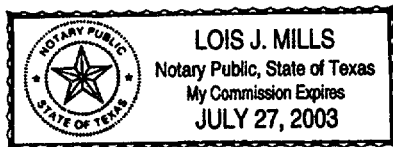
I, J. J. Sheppard, being duly sworn, hereby depose and say that I am Vice President, Engineering & Technical Services of STP Nuclear Operating Company; that I am duly authorized to sign and file with the Nuclear Regulatory Commission the attached supplemental information; that I am familiar with the content thereof; and that the matters set forth therein are true and correct to the best of my knowledge and belief.



J. J. Sheppard
Vice President,
Engineering & Technical Services

STATE OF TEXAS)

COUNTY OF MATAGORDA)

Subscribed and sworn to before me, a Notary Public in and for the State of Texas, this
1st day of February, 2001.




Notary Public in and for the
State of Texas

ATTACHMENT 2

**UPDATED/CORRECTED PAGES
FOR
NOC-AE-000394**

The attached Updated/Corrected pages, listed below, are provided as a supplement to NOC-AE-000394. These pages are provided as replacement pages for attachments contained in NOC-AE-000394

Marked up pages (attachment 5)

3/4 4-2

B3/4 9-3

Insert page (attachment 5)

Insert 21 for Technical Specification page B 3/4 7-4

Reconciled pages (attachment 7)

3/4 4-2

3/4 4-3

3/4 4-5

3/4 7-16

3/4 8-13

3/4 8-16

3/4 9-2

3/4 9-8

B 3/4 4-1a

B 3/4 7-4

B 3/4 7-5

B 3/4 7-5a

REACTOR COOLANT SYSTEM

HOT STANDBY

LIMITING CONDITION FOR OPERATION

3.4.1.2 At least two of the reactor coolant loops listed below shall be OPERABLE and with two reactor coolant loops in operation when the Reactor Trip System breakers are closed and one reactor coolant loop in operation when the Reactor Trip System breakers are open:*

- a. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,
- b. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,
- c. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump, and
- d. Reactor Coolant Loop D and its associated steam generator and reactor coolant pump.

APPLICABILITY: MODE 3.

ACTION:

- a. With less than the above required reactor coolant loops OPERABLE, restore the required loops to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.
- b. With only one reactor coolant loop in operation and the Reactor Trip System breakers in the closed position, within 1 hour open the Reactor Trip System breakers.
- c. With no reactor coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required reactor coolant loop to operation.

insert 2

SURVEILLANCE REQUIREMENTS

4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.2.2 The required steam generators shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 10% narrow range at least once per 12 hours.

4.4.1.2.3 The required reactor coolant loops shall be verified in operation and circulating reactor coolant at least once per 12 hours.

*All reactor coolant pumps may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

insert 3

BASES

B 3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

The requirement that at least one residual heat removal (RHR) loop be in operation ensures that: (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor vessel below 140°F as required during the REFUELING MODE, and (2) sufficient coolant circulation is maintained through the core to minimize the effect of a boron dilution incident and prevent boron stratification.

The requirement to have two RHR loops OPERABLE when there is less than 23 feet of water above the reactor vessel flange ensures that a single failure of the operating RHR loop will not result in a complete loss of residual heat removal capability. With the reactor vessel head removed and at least 23 feet of water above the reactor pressure vessel flange, a large heat sink is available for core cooling. Thus, in the event of a failure of the operating RHR loop, adequate time is provided to initiate emergency procedures to cool the core.

B 3/4.9.9 CONTAINMENT VENTILATION ISOLATION SYSTEM

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

B 3/4.9.10 and B 3/4.9.11 WATER LEVEL - REFUELING CAVITY AND STORAGE POOLS

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed iodine gas activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the safety analysis.

B 3/4.9.12 FUEL HANDLING BUILDING EXHAUST AIR SYSTEM

The FHB exhaust air system is comprised of two independent exhaust air filter trains and three exhaust ventilation trains. Each of the three exhaust ventilation trains has a main exhaust fan, an exhaust booster fan, and associated dampers. The main exhaust fans share a common plenum and the exhaust booster fans share a common plenum. An OPERABLE ventilation exhaust train consists of any OPERABLE main exhaust fan, any OPERABLE exhaust booster fan and appropriate OPERABLE dampers.

The limitations on the Fuel Handling Building Exhaust Air System ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and charcoal adsorber prior to discharge to the atmosphere. Operation of the system with the heaters operating for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system and the resulting iodine removal capacity are consistent with the assumptions of the safety analyses. ANSI N510-1980 will be used as a procedural guide for surveillance testing. This Specification has been modified by a note that states, at least one FHB exhaust air filter train, one FHB exhaust booster fan, and one FHB main exhaust fan are capable of being powered from an Onsite emergency power source. This note ensures that required FHB exhaust train components will have an emergency power source available, even if the limiting conditions for operation can be satisfied.

Insert 21

The ACTIONS specified during modes 5 and 6 with less than the minimum required Control Room Makeup and Cleanup Filtration Systems, or associated power systems, include suspending operations involving positive reactivity additions that could result in loss of required SHUTDOWN MARGIN or refueling boron concentration necessary to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than what would be required in the RCS for minimum SHUTDOWN MARGIN or refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes, including temperature increases when operating with a positive moderator temperature coefficient, must also be evaluated to not result in operation below the required SHUTDOWN MARGIN or refueling boron concentration limits. Control rod withdrawal is not allowed except that it is permissible to unlock the control rods for rapid refueling. To unlock the control rods, they must be withdrawn at least one step. However, since the control rods are above the active fuel when the unlocking process occurs, there is no reactivity addition.

REACTOR COOLANT SYSTEM

HOT STANDBY

LIMITING CONDITION FOR OPERATION

3.4.1.2 At least two of the reactor coolant loops listed below shall be OPERABLE and with two reactor coolant loops in operation when the Reactor Trip System breakers are closed and one reactor coolant loop in operation when the Reactor Trip System breakers are open:*

- a. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,
- b. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,
- c. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump, and
- d. Reactor Coolant Loop D and its associated steam generator and reactor coolant pump.

APPLICABILITY: MODE 3.

ACTION:

- a. With less than the above required reactor coolant loops OPERABLE, restore the required loops to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.
- b. With only one reactor coolant loop in operation and the Reactor Trip System breakers in the closed position, within 1 hour open the Reactor Trip System breakers.
- c. With no reactor coolant loop in operation, suspend operations that would cause introduction into the RCS of coolant with boron concentration less than required to meet SHUTDOWN MARGIN of LCO 3.1.1 and immediately initiate corrective action to return the required reactor coolant loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.2.2 The required steam generators shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 10% narrow range at least once per 12 hours.

4.4.1.2.3 The required reactor coolant loops shall be verified in operation and circulating reactor coolant at least once per 12 hours.

*All reactor coolant pumps may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause introduction into the RCS of coolant with boron concentration less than that required to meet SHUTDOWN MARGIN of LCO 3.1.1, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

REACTOR COOLANT SYSTEM

HOT SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.3 At least two of the loops listed below shall be OPERABLE and at least one of these loops shall be in operation:*

- a. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,**
- b. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,**
- c. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,**
- d. Reactor Coolant Loop D and its associated steam generator and reactor coolant pump,**
- e. RHR Loop A with valve CV0198 locked or pinned in position to limit flow to 125 gpm,
- f. RHR Loop B with valve CV0198 locked or pinned in position to limit flow to 125 gpm, and
- g. RHR Loop C with valve CV0198 locked or pinned in position to limit flow to 125 gpm.

APPLICABILITY: MODE 4.

ACTION:

- a. With less than the above required loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible; if the remaining OPERABLE loop is an RHR loop, be in COLD SHUTDOWN within 24 hours.
- b. With no loop in operation, suspend operations that would cause introduction into the RCS of coolant with boron concentration less than required to meet SHUTDOWN MARGIN of LCO 3.1.1 and immediately initiate corrective action to return the required loop to operation.

*All reactor coolant pumps and RHR pumps may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause introduction into the RCS of coolant with boron concentration less than that required to meet SHUTDOWN MARGIN of LCO 3.1.1, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

**A reactor coolant pump shall not be started with one or more of the Reactor Coolant System cold leg temperatures less than or equal to 350°F unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures.

REACTOR COOLANT SYSTEM

COLD SHUTDOWN - LOOPS FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4.1 At least one residual heat removal (RHR) loop with valve CV0198 locked or pinned in position to limit flow to 125 gpm shall be OPERABLE and in operation*, and either:

- a. One additional RHR loop shall be OPERABLE**, or
- b. The secondary side water level of at least two steam generators shall be greater than 10% narrow range.

APPLICABILITY: MODE 5 with reactor coolant loops filled***.

ACTION:

- a. With two of the RHR loops inoperable and with less than the required steam generator water level, immediately initiate corrective action to return one of the inoperable RHR loops to OPERABLE status or restore the required steam generator water level as soon as possible.
- b. With no RHR loop in operation, suspend operations that would cause introduction into the RCS of coolant with boron concentration less than required to meet SHUTDOWN MARGIN of LCO 3.1.1 and immediately initiate corrective action to return the required RHR loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.4.1.1 The secondary side water level of at least two steam generators when required shall be determined to be within limits at least once per 12 hours.

4.4.1.4.1.2 At least one RHR loop with valve CV0198 locked or pinned in position to limit flow to 125 gpm shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.

*The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause introduction into the RCS of coolant with boron concentration less than that required to meet SHUTDOWN MARGIN of LCO 3.1.1, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

**Two RHR loops may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

***A reactor coolant pump shall not be started with one or more of the Reactor Coolant System cold leg temperatures less than or equal to 350°F unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures.

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM MAKEUP AND CLEANUP FILTRATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7 Three independent Control Room Makeup and Cleanup Filtration Systems shall be OPERABLE.

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3, and 4:

- a. With one Control Room Makeup and Cleanup Filtration System inoperable, restore the inoperable system 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.
- b. With two Control Room Makeup and Cleanup Filtration Systems inoperable, restore at least two systems to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With three Control Room Makeup and Cleanup Filtration Systems inoperable, suspend all operations involving movement of spent fuel, and crane operation with loads over the spent fuel pool, and restore at least one system to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

- a. With one Control Room Makeup and Cleanup Filtration System inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE Control Room Makeup and Cleanup Filtration Systems in the recirculation and makeup air filtration mode, or suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of spent fuel, and crane operation with loads over the spent fuel pool.
- b. With more than one Control Room Makeup and Cleanup Filtration Systems inoperable, or with the OPERABLE Control Room Makeup and Cleanup Filtration Systems required to be in the recirculation and makeup air filtration mode by ACTION a. not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS, operations involving positive reactivity additions that could result in loss of required SHUTDOWN or required boron concentration, movement of spent fuel, and crane operations with loads over the spent fuel pool.

SURVEILLANCE REQUIREMENTS

4.7.7 Each Control Room Makeup and Cleanup Filtration System shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 78°F;
- b. At least once per 92 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers of the makeup and cleanup air filter units and verifying that the system operates for at least 10 continuous hours with the makeup filter unit heaters operating;

ELECTRICAL POWER SYSTEMS

D.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 DC electrical power subsystem shall be OPERABLE to support the DC electrical power distribution subsystem(s) required by LCO 3.8.3.2, "Onsite Power Distribution - Shutdown."

APPLICABILITY: MODES 5 and 6.

ACTION:

With one or more required DC electrical power subsystems inoperable, immediately declare affected required feature(s) inoperable OR immediately initiate action to suspend operations with a potential for draining the reactor vessel, suspend all operations involving CORE ALTERATIONS, operations involving positive reactivity additions that could result in loss of required SHUTDOWN MARGIN or required boron concentration, or movement of irradiated fuel; initiate corrective action to restore the required DC electrical power subsystems to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENT

4.8.2.2 The required DC sources shall be demonstrated OPERABLE in accordance with Specification 4.8.2.1.

ELECTRICAL POWER SYSTEMS

ONSITE POWER DISTRIBUTION

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.3.2 The necessary portion of AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE to support equipment required to be OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With one or more required AC, DC, or AC vital bus electrical power distribution subsystems inoperable, immediately declare associated supported required feature(s) inoperable OR immediately initiate action to suspend operations with a potential for draining the reactor vessel, suspend all operations involving CORE ALTERATIONS, operations involving positive reactivity additions that could result in loss of required SHUTDOWN MARGIN or required boron concentration, movement of irradiated fuel, and immediately initiate corrective action to restore required AC, DC, and AC vital bus electrical power distribution subsystems to OPERABLE status and declare associated required residual heat removal subsystem(s) inoperable and not in operation.

SURVEILLANCE REQUIREMENT

4.8.3.2 Verify correct breaker alignment and voltage to required AC, DC, and AC vital bus electrical power distribution subsystems at least once per 7 days.

REFUELING OPERATIONS

3/4.9.2 INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.9.2 As a minimum, two Source Range Neutron Flux Monitors* shall be OPERABLE, each with continuous visual indication in the control room and one with audible indication in the containment and control room.

APPLICABILITY: MODE 6.

ACTION:

- a. With one of the above required monitors inoperable or not operating, immediately suspend all operations involving CORE ALTERATIONS or operations involving positive reactivity additions that could result in loss of required SHUTDOWN MARGIN or required boron concentration of LCO 3.9.1.
- b. With both of the above required monitors inoperable or not operating, determine the boron concentration of the Reactor Coolant System at least once per 12 hours.

SURVEILLANCE REQUIREMENTS

4.9.2 Each Source Range Neutron Flux Monitor shall be demonstrated OPERABLE by performance of:

- a. A CHANNEL CHECK at least once per 12 hours,
- b. A CHANNEL CALIBRATION, excluding the Neutron detectors, every 18 months.

* An Extended Range Neutron Flux Monitor may be substituted for one of the Source Range Neutron Flux Monitors provided the OPERABLE Source Range Neutron Flux Monitor is capable of providing audible indication in the containment and control room.

REFUELING OPERATIONS

3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

HIGH WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.8.1 At least one residual heat removal (RHR) loop shall be OPERABLE and in operation.*

APPLICABILITY: MODE 6, when the water level above the top of the reactor vessel flange is greater than or equal to 23 feet.

ACTION:

With no RHR loop OPERABLE and in operation, suspend all operations involving an increase in the reactor decay heat load or operations that would cause introduction into the RCS of coolant with boron concentration less than required to meet the refueling boron concentration limit of LCO 3.9.1 and immediately initiate corrective action to return the required RHR loop to OPERABLE and operating status as soon as possible. Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere within 4 hours.

SURVEILLANCE REQUIREMENTS

4.9.8.1 At least one RHR loop shall be verified in operation and circulating reactor coolant at a flow rate of greater than or equal to 3000 gpm at least once per 12 hours.

* The RHR loop may be removed from operation for up to 1 hour per 8 hour period during the performance of CORE ALTERATIONS in the vicinity of the reactor vessel hot legs.

REACTOR COOLANT SYSTEM

BASES

REACTOR COOLANT LOOPS and COOLANT CIRCULATION (continued)

ACTIONS are provided with a similar requirement that, with no reactor coolant loop in operation, operations that would cause introduction into the RCS of coolant with boron concentration less than required to meet the required SHUTDOWN MARGIN are prohibited. Suspending the introduction into the RCS of coolant with boron concentration less than that required to meet the SHUTDOWN MARGIN limit is necessary to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than what would be required in the RCS for minimum SHUTDOWN MARGIN. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes, including temperature increases when operating with a positive moderator temperature coefficient, must also be evaluated to not result operation below the required SHUTDOWN MARGIN or refueling boron concentration limit.

The restrictions on starting an RCP with one or more RCS cold legs less than or equal to 350°F are provided to prevent RCS pressure transients, caused by energy additions from the Secondary Coolant System, which could exceed the limits of Appendix G to 10 CFR Part 50. The RCS will be protected against overpressure transients and will not exceed the limits of Appendix G by restricting starting of the RCPs to when the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures.

3/4.4.2 SAFETY VALVES

The pressurizer Code safety valves operate to prevent the RCS from being pressurized above its Safety Limit of 2735 psig. Each safety valve is designed to relieve 504,950 lbs. per hour of saturated steam at the valve setpoint of 2500 psia.

PLANT SYSTEMS

BASES

The limitations on minimum water level and maximum temperature are based on providing a 30-day cooling water supply to safety-related equipment without exceeding its design basis temperature and is consistent with the recommendations of Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Plants," March 1974.

3/4.7.6 (Not used)

3/4.7.7 CONTROL ROOM MAKEUP AND CLEANUP FILTRATION SYSTEM

The Control Room Makeup and Filtration System is comprised of three 50-percent redundant systems (trains) that share a common intake plenum and exhaust plenum. Each system/train is comprised of a makeup fan, a makeup filtration unit, a cleanup filtration unit, a cleanup fan, a control room air handling unit, a supply fan, a return fan, and associated ductwork and dampers. Two of the three 50% design capacity trains are required to be operable during the following modes of operation: shutdown, hot standby, normal operation, postulated accident condition, and loss of offsite power. The toilet/kitchen exhaust, heating, and computer room HVAC Subsystem associated with the Control Room Makeup and Filtration System are nonsafety-related and not required for operability.

The OPERABILITY of the Control Room Makeup and Cleanup Filtration System ensures that: (1) the ambient air temperature does not exceed the allowable temperature for continuous-duty rating for the equipment and instrumentation cooled by this system, and (2) the control room will remain habitable for operations personnel during and following all credible accident conditions. Operation of the system with the heaters operating for at least 10 continuous hours in a 92-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rems or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix A, 10 CFR Part 50. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

The ACTIONS specified during modes 5 and 6 with less than the minimum required Control Room Makeup and Cleanup Filtration Systems, or associated power systems, include suspending operations involving positive reactivity additions that could result in loss of required SHUTDOWN MARGIN or refueling boron concentration necessary to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than what would be required in the RCS for minimum SHUTDOWN MARGIN or refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes, including temperature increases when operating with a positive moderator temperature coefficient, must also be evaluated to not result in operation below the required SHUTDOWN MARGIN or refueling boron concentration limits. Control rod withdrawal is not allowed except that it is permissible to unlock the control rods for rapid refueling. To

PLANT SYSTEMS

BASES

3/4.7.7 CONTROL ROOM MAKEUP AND CLEANUP FILTRATION SYSTEM (cont.)

unlock the control rods, they must be withdrawn at least one step. However, since the control rods are above the active fuel when the unlocking process occurs, there is no reactivity addition.

The time limits associated with the ACTIONS to restore an inoperable train to OPERABLE status are consistent with the redundancy and capability of the system and the low probability of a design basis accident while the affected train(s) is out of service.

A limited allowed outage time of 12 hours is allowed for all three trains to be out of service simultaneously in recognition of the fact that there are common plenums and some maintenance or testing activities required opening or entry into these common plenums. This time is reasonable to diagnose, plan, and possibly repair problems with the boundary or the ventilation system. This is acceptable based on the low probability of a design basis event in that brief allowed outage time and because administrative controls impose compensatory actions that reduce the already small risk associated with being in the ACTION. The compensatory actions are consistent with the intent of GDC 19 to protect plant personnel from potential hazards such as radioactive contamination, smoke, and temperature, etc. Pre-planned measures should be available to address these concerns for intentional and unintentional entry into the condition. The compensatory actions include:

- Procedures will preclude intentionally removing multiple trains of Control Room Envelope HVAC from service if Containment Spray is not functional or intentionally making a train of Containment Spray unavailable when multiple trains of Control Room Envelope HVAC are out of service. For purposes of this compensatory action, Containment Spray is considered functional if at least one train can be manually or automatically initiated.
- The plant will not make planned simultaneous entries into TS 3.7.7 ACTION c. for MODES 1, 2, 3 and 4 and TS 3.7.8 ACTION b or d.

The compensatory action may include placing fans in pull-to-lock as necessary to preclude there being a motive force to transport contaminated air to a clean environment in the event of an accident. These compensatory actions also include administrative controls on opening plenums or other openings such that appropriate communication is established with the control room to assure timely closing of the system if necessary. Since the Control Room Envelope boundary integrity also affects operability of the overall system, entry and exit is administratively controlled.

Administrative control of entry and exit through doors is performed by the person(s) entering or exiting the area. Extended opening of the boundary is coordinated with the control room with appropriate plans for closure and communication.

PLANT SYSTEMS

BASES

3/4.7.8 FUEL HANDLING BUILDING EXHAUST AIR SYSTEM

The FHB exhaust air system is comprised of two independent exhaust air filter trains and three exhaust ventilation trains. Each of the three exhaust ventilation trains has a main exhaust fan, an exhaust booster fan, and associated dampers. The main exhaust fans share a common plenum and the exhaust booster fans share a common plenum. An OPERABLE ventilation exhaust train consists of any OPERABLE main exhaust fan, any OPERABLE exhaust booster fan, and appropriate dampers.

The OPERABILITY of the Fuel Handling Building Exhaust Air System ensures that radioactive materials leaking from the ECCS equipment within the FHB following a LOCA are filtered prior to reaching the environment. Operation of the system with the heaters operating for the least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The operation of this system and the resultant effect on offsite dosage calculations was assumed in the safety analyses. ANSI N510-1980 will be used as a procedural guide for surveillance testing.

The time limits associated with the ACTIONS to restore an inoperable train to OPERABLE status are consistent with the redundancy and capability of the system and the low probability of a design basis accident while the affected train(s) is out of service. The allowed outage time for one train of FHB exhaust ventilation or one exhaust filtration train being inoperable, or a combination of an inoperable exhaust ventilation train and an inoperable exhaust filtration train is 7 days. With more than one inoperable train of either FHB exhaust filtration or FHB exhaust ventilation, or with combinations involving more than one inoperable train of either the exhaust ventilation or the exhaust filtration, the allowed outage time is 12 hours. A limited allowed outage time of 12 hours is allowed for multiple trains to be out of service simultaneously in recognition of the fact that there are common plenums and some maintenance or testing activities required opening or entry into these common plenums. This time is reasonable to diagnose, plan, and possibly repair problems with the boundary or the ventilation system. This is acceptable based on the low probability of a design basis event in that brief allowed outage time and because administrative controls impose compensatory actions that reduce the already small risk associated with being in the ACTION. The compensatory actions are consistent with the intent of GDC 19, GDC 60 and Part 100 to protect plant personnel from potential hazards such as radioactive contamination, smoke, and temperature, etc. Pre-planned measures should be available to address these concerns for the intentional and unintentional entry into the condition. The compensatory action may include placing fans in pull-to-lock as necessary to preclude there being a motive force to transport contaminated air to a clean environment in the event of an accident. These compensatory actions include administrative controls on opening plenums or other openings such that appropriate communication is established with the control room to assure timely closing of the system if necessary. Since the Fuel Handling Building boundary integrity also affects operability of the overall system, entry and exit is administratively controlled. Administrative control of entry and exit through doors is performed by the person(s) entering or exiting the area. Extended opening of the boundary is coordinated with the control room with appropriate plans for closure and communication.

3/4.7.9 (Not Used)