Nuclear Operating Company

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

June 28, 2010
NOC-AE-10002538
10CFR50.90

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
License Amendment Request to Revise the Action
Requirement for an Inoperable Control Room Envelope Boundary to
Technical Specification 3.7.7, "Control Room Makeup and Cleanup Filtration Systems"

References: 1. Letter dated June 26, 2007, from Charles T. Bowman, STPNOC, to NRC Document Control Desk, "Proposed Revision to Technical Specifications Regarding Control Room Envelope Habitability in Accordance with TSTF-448, Revision 3, Using the Consolidated Line Item Improvement Process" (ML071870252, NOC-AE-07002165, TAC Nos. MD5942 and MD5943)

2. Letter dated July 29, 2008, from Jack N. Donohew, NRC, to Edward D. Halpin, STPNOC, "South Texas Project, Units 1 and 2 – Issuance of Amendments Re: Adoption of Technical Specifications Task Force (TSTF) Traveler No. 448, Revision 3, "Control Room Envelope Habitability"(ML082040595, ST-AE-NOC-08001787, TAC Nos. MD5942 and MD5943)"

The STP Nuclear Operating Company (STPNOC) is submitting this License Amendment Request to revise the action requirement for an inoperable Control Room Envelope (CRE) boundary.

In Reference 1, STPNOC submitted a License Amendment Request to revise the TS regarding Control Room Envelope Habitability in accordance with TSTF-448, Revision 3. The request was approved by NRC on July 29, 2008 (Reference 2). The STPNOC application did not provide for shutdown actions if the required actions for an inoperable control room envelope boundary were not met. This is inconsistent with the TSTF. This License Amendment Request is submitted to correct this oversight.

A102
LIRR

STI: 32636338

This License Amendment Request also adds a note to the required action for an inoperable control room envelope boundary to clarify that the boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power. This change clarifies the application of TS action 3.8.1.1.d., "A.C. Sources, D.C. Sources, and Onsite Power Distribution," when the control room envelope boundary is inoperable.

The Enclosure to this letter provides an evaluation of the proposed change. The annotated Technical Specifications pages are provided as Attachment 1 to the Enclosure. Although there are no changes proposed to the TS on the second and third pages, all three TS pages will need to be part of the approved amendment because some specifications from each preceding page moved to the succeeding page as a result of the proposed change on the first page.

STPNOC requests approval of the proposed license amendment by April 1, 2011, with a 60-day implementation period to provide time to revise STP licensing documents.

This letter contains no regulatory commitments.

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.

If you should have any questions regarding this submittal, please contact Ken Taplett at (361) 972-8416 or me at (361) 972-7454.

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

Executed on June 28, 2010.
Date

Charles T. Bowman
General Manager, Oversight

KJT

Enclosure: Evaluation of the Proposed Change

cc:
(paper copy)

Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
612 East Lamar Blvd, Suite 400
Arlington, Texas 76011-4125

Mohan C. Thadani
Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North (MS 8B1A)
11555 Rockville Pike
Rockville, MD 20852

Senior Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 289, Mail Code: MN116
Wadsworth, TX 77483

C. M. Canady
City of Austin
Electric Utility Department
721 Barton Springs Road
Austin, TX 78704

(electronic copy)

A. H. Gutterman, Esquire
Morgan, Lewis & Bockius LLP

Mohan C. Thadani
U. S. Nuclear Regulatory Commission

John Ragan
Catherine Callaway
Jim von Suskil
NRG South Texas LP

Ed Alarcon
Kevin Pollo
City Public Service

Jon C. Wood
Cox Smith Matthews

C. Mele
City of Austin

Richard A. Ratliff
Texas Department of State Health Services

Alice Rogers
Texas Department of State Health Services

Enclosure

Evaluation of the Proposed Change

Subject: License Amendment Request for Revision to Technical Specification 3.7.7

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Attachments:

1. Annotated Technical Specification Page
2. Annotated Technical Specification Bases Changes (For Information Only)

Evaluation of Proposed Change

1.0 Summary Description

This evaluation supports a request to amend Operating Licenses NPF-76 and NPF-80 for the South Texas Project (STP), Units 1 and 2.

The proposed change provides for shutdown actions if the required actions for an inoperable control room boundary are not met. This change will correct an oversight in a previous License Amendment Request (Reference 6.1). In addition, the proposed change adds a note to the required action for an inoperable control room envelope boundary to clarify that the boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power.

2.0 Detailed Description

STP TS 3.7.7 requires the operability of three independent trains of CRE HVAC[1]. The required actions of TS 3.7.7 are shown below.

a. With one Control Room Makeup and Cleanup Filtration System inoperable, within 7 days restore the inoperable system to OPERABLE status or apply the requirements of the CRMP, 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, within 72 hours restore at least two systems to OPERABLE status or apply the requirements of the CRMP, or be 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 within 12 hours restore at least one system to OPERABLE status or apply the requirements of the CRMP, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

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[1] The acronym "CRE HVAC," that appears in this enclosure, is referring to the Control Room Makeup and Cleanup Filtration System

d. One or more Control Room Makeup and Cleanup Filtration Systems inoperable due to inoperable Control Room Envelope (CRE) boundary perform the following:

1) immediately initiate action to implement mitigating actions, and
2) within 24 hours verify mitigating actions ensure CRE occupant exposures to radiological, chemical and smoke hazards will not exceed limits, and
3) within 90 days restore CRE boundary to OPERABLE status

In Reference 6.1, STPNOC submitted a License Amendment Request to revise the TS regarding Control Room Envelope Habitability in accordance with TSTF-448, Revision 3. The request was approved by NRC on July 29, 2008 (Reference 6.2). The STPNOC application did not provide for shutdown actions if the required actions for an inoperable control room boundary were not met. This was inconsistent with the TSTF. Currently, TS 3.0.3 would apply if the action could not be met. This application proposes to add the shutdown action requirements to Action d. of TS 3.7.7.

In addition, the proposed change adds a note to the required action for an inoperable control room envelope boundary to clarify that the boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power. This change will allow TS ACTION 3.8.1.1.d, "A.C. Sources, D.C. Sources, and Onsite Power Distribution," to be satisfied in that with one standby diesel generator inoperable, all required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generators as a source of emergency power are also be considered OPERABLE for the plant configuration where the CRE HVAC Systems are inoperable only because the CRE boundary is inoperable. This prevents unnecessarily restricting plant operation where the subsystem (i.e CRE boundary) does not depend on a diesel generator as a source of emergency power.

TS ACTION 3.8.1.1.d. states that:

d. With one standby diesel generator inoperable in addition to ACTION b. or c. above, verify that:

1. All required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generators as a source of emergency power are also OPERABLE, and

2. When in MODE 1, 2, or 3, the steam-driven auxiliary feedwater pump is OPERABLE.

If these conditions are not satisfied within 24 hours, apply the requirements of the CRMP, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Therefore, this change proposes to revise TS action 3.7.7.d as follows:

Note

The Control Room Envelope (CRE) boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power. Specification 3.8.1.1.d need not be applied for an inoperable Control Room Makeup and Cleanup Filtration System that is inoperable solely due to an inoperable Control Room Envelope boundary.

d. One or more Control Room Makeup and Cleanup Filtration Systems inoperable due to an inoperable Control Room Envelope (CRE) boundary perform the following:

1) immediately initiate action to implement mitigating actions, and
2) within 24 hours verify mitigating actions ensure CRE occupant exposures to radiological, chemical and smoke hazards will not exceed limits, and
3) within 90 days restore CRE boundary to OPERABLE status

OR

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

A mark-up of the proposed change to TS 3.7.7 is provided in Attachment 1 to this Enclosure. A mark-up of the TS Bases Changes to TS 3.7.7 and TS 3.8.1.1 are provided in Attachment 2 to this Enclosure for information.

3.0 Technical Evaluation

3.1 Background

The CRE is equipped to maintain control room atmosphere at environmental conditions suitable for occupancy per General Design Criterion (GDC) 19 of Appendix A to 10 CFR 50. Radiation protection, as required by GDC 19, is provided by shield walls, shield slabs at floor and ceiling, radiation monitoring equipment, and emergency filtering units.

The CRE HVAC is designed to limit the radiological dose equivalent to the plant operators from airborne radioactivity after a Design Basis Accident. The CRE HVAC system is designed to maintain the CRE at a minimum of 0.125-inch water gauge positive pressure relative to the

surrounding area, following postulated accidents other than hazardous chemical/smoke releases and loss-of-offsite power, by introducing makeup air equivalent to the expected ex-filtration air during plant emergency conditions. This arrangement minimizes any possibility of contaminants infiltrating the CRE from the surrounding area. The integrity of the CRE boundary is important to minimize potential paths of air infiltration.

3.2. Technical Specification Change to be Consistent with TSTF 448

Adding shutdown actions to TS ACTION 3.7.7.d for an inoperable CRE boundary is consistent with TSTF–448 Revision 3. The availability of this TS improvement was published in the Federal Register on January 17, 2007 as part of the consolidated line item improvement process (CLIIP) (Reference 6.3). STPNOC has concluded that the justifications presented in the TSTF proposal and the safety evaluation, prepared by the NRC staff, are applicable to South Texas Project (STP) Units 1 and 2, and justify this request to change the STP TS.

3.3 Technical Specification Change to Clarify Control Room Envelope Boundary's Relationship to the Diesel Generators as a Source of Emergency Power.

The proposed change adds a note to the required action for an inoperable CRE boundary to clarify that the boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power. This change clarifies that TS ACTION 3.8.1.1.d is satisfied with one standby diesel generator inoperable, and all required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generators as sources of emergency power are OPERABLE, and the Control Room Makeup and Cleanup Filtration Systems are inoperable solely because the CRE boundary is inoperable.

TS ACTION 3.8.1.1.d provides assurance that a loss of offsite power during the period that a diesel generator is inoperable does not result in a complete loss of safety function of critical systems. TS ACTION 3.7.7.d requires that mitigating actions be taken to ensure CRE occupant exposures to radiological, chemical and smoke hazards do not exceed limits, thus, ensuring that the safety function is met. The restoration of the CRE boundary to this condition does not depend on the diesel generators as sources of emergency power. This change prevents unnecessarily restricting plant operation where the subsystem (i.e. CRE boundary) does not depend on a diesel generator as a source of emergency power.

4.0 Regulatory Evaluation

4.1 Applicable Regulatory Requirements/Criteria

10CFR50.36 requires that TS contain Limiting Conditions for Operations (LCO). 10CFR50.36 requires that: "When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met." The NRC noticed TSTF–448, Revision 3 in the Federal Register on January 17, 2007 (Reference 6.3) as being available as part of the consolidated line item improvement process (CLIIP). TSTF-448, Revision 3 provided a

shutdown action for the condition where the Control Room Makeup and Cleanup Filtration Systems inoperable due to an inoperable Control Room Envelope (CRE) boundary. Consequently, the provisions of 10CFR50.36 are met with the proposed change.

4.2 Precedent

The NRC noticed TSTF–448, Revision 3 in the Federal Register on January 17, 2007 as being available as part of the consolidated line item improvement process (CLIIP).

4.3 Significant Hazards Consideration

STPNOC has evaluated whether a significant hazards consideration is involved with the proposed amendments by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The proposed change to add the shutdown actions to TS ACTION 3.7.7.d is consistent with Nuclear Regulatory Commission (NRC) noticed Industry/Technical Specification Task Force (TSTF) Standard Technical Specification (STS) change TSTF–448 Revision 3, which has been approved by an NRC safety evaluation.

   The proposed change to add a note to the required action for an inoperable control room envelope boundary does not change the design function of the Control Room Makeup and Cleanup Filtration Systems or the design function of the A.C. Sources, D.C. Sources, and Onsite Power Systems or how these systems operate. The change only clarifies that the Control Room Envelope boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power.

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

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed change to add the shutdown actions to TS ACTION 3.7.7.d is consistent with Nuclear Regulatory Commission (NRC) noticed Industry/Technical Specification Task Force (TSTF) Standard Technical Specification (STS) change TSTF–448 Revision 3, which has been approved by an NRC safety evaluation.

The proposed change to add a note to the required action for an inoperable control room envelope boundary does not change the design of the Control Room Makeup and Cleanup Filtration Systems or the design function of the A.C. Sources, D.C. Sources, and Onsite Power Systems. The change only clarifies that the Control Room Envelope boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power.

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

3. Does the proposed change involve a significant reduction to a margin of safety?

   Response No

   The proposed change to add the shutdown actions to TS ACTION 3.7.7.d is consistent with Nuclear Regulatory Commission (NRC) noticed Industry/Technical Specification Task Force (TSTF) Standard Technical Specification (STS) change TSTF–448 Revision 3, which has been approved by an NRC safety evaluation.

   The proposed change to add a note to the required action for an inoperable control room envelope boundary does not change any safety margins associated with operation of the Control Room Makeup and Cleanup Filtration Systems or any safety margins associated with the A.C. Sources, D.C. Sources, and Onsite Power Systems. The change only clarifies that the Control Room Envelope boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power.

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

Based on the above, STPNOC concludes that the proposed amendments do not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.4 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

STPNOC has reviewed the proposed amendment and determined that it does not involve (1) a significant hazards consideration, (2) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (3) a significant increase in the

individual or cumulative occupational exposure. Accordingly, the proposed changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 References

6.1 Letter dated June 26, 2007, from Charles T. Bowman, STPNOC, to NRC Document Control Desk, "Proposed Revision to Technical Specifications Regarding Control Room Envelope Habitability in accordance with TSTF-448, Revision 3, Using the Consolidated Line Item Improvement Process (ML071870252, NOC-AE-07002165)

6.2 Letter dated July 29, 2008, from Jack N. Donohew, NRC, to Edward D. Halpin, STPNOC, "South Texas Project, Units 1 and 2 – Issuance of Amendments Re: Adoption of Technical Specifications Task Force (TSTF) Traveler No. 448, Revision 3, "Control Room Envelope Habitability"(ML082040595, ST-AE-NOC-08001787, TAC Nos. MD5942 and MD5943)"

6.3 Federal Register Notice, Volume 72, Pages 2022-2033, Technical Specification Improvement To Modify Requirements Regarding Control Room Envelope Habitability Using the Consolidated Line Item Improvement Process, dated January 17, 2007.

Enclosure, Attachment 1

Annotated Technical Specification Page

Technical Specification 3/4.7.7

Control Room Makeup and Cleanup Filtration System

Note: Although there are no proposed changes on TS pages 3/4 7-17 and 3/4 7-18, specifications from the preceding page moved to these succeeding pages so that an approved amendment would need to include TS pages 3/4 7-16 through 3/4 7-18.

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: MODES 1, 2, 3, and 4:

ACTION:

a. With one Control Room Makeup and Cleanup Filtration System inoperable for reasons other than condition d, within 7 days restore the inoperable system to OPERABLE status or apply the requirements of the CRMP, 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 for reasons other than condition d, within 72 hours restore at least two systems to OPERABLE status or apply the requirements of the CRMP, 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 for reasons other than condition d, within 12 hours restore at least one system to OPERABLE status or apply the requirements of the CRMP, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Note

The Control Room Envelope (CRE) boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power. Specification 3.8.1.1.d need not be applied for an inoperable Control Room Makeup and Cleanup Filtration System that is inoperable solely due to an inoperable Control Room Envelope boundary.

d. One or more Control Room Makeup and Cleanup Filtration Systems inoperable due to inoperable Control Room Envelope (CRE) boundary perform the following:

1) immediately initiate action to implement mitigating actions, and
2) within 24 hours verify mitigating actions ensure CRE occupant exposures to radiological, chemical and smoke hazards will not exceed limits, and
3) within 90 days restore CRE boundary to OPERABLE status.

OR

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

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

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

a. At a frequency in accordance with the Surveillance Frequency Control Program by verifying that the control room air temperature is less than or equal to 78°F;

b. At a frequency in accordance with the Surveillance Frequency Control Program 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;

c. At a frequency in accordance with the Surveillance Frequency Control Program or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:

1) Verifying that the makeup and cleanup systems satisfy the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% for HEPA filter banks and 0.10% for charcoal adsorber banks and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 6000 cfm ± 10% for the cleanup units and 1000 cfm ± 10% for the makeup units;

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of ASTM D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," for a methyl iodide penetration of less than 1.0% when tested at a temperature of 30°C and a relative humidity of 70%; and

3) Verifying a system flow rate of 6000 cfm ± 10% for the cleanup units and 1000 cfm ± 10% for the makeup units during system operation when tested in accordance with ANSI N510-1980.

d. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of ASTM D3803-1989 for a methyl iodide penetration of less than 1.0% when tested at a temperature of 30°C and a relative humidity of 70%.

e. At a frequency in accordance with the Surveillance Frequency Control Program by:

1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.1 inches Water Gauge for the makeup units and 6.0 inches Water Gauge for the cleanup units while operating the system at a flow rate of 6000 cfm ± 10% for the cleanup units and 1000 cfm ± 10% for the makeup units;

No changes proposed – some requirements were on the previous page.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2) Verifying that on a control room emergency ventilation test signal (High Radiation and/or Safety Injection test signal), the system automatically switches into a recirculation and makeup air filtration mode of operation with flow through the HEPA filters and charcoal adsorber banks of the cleanup and makeup units;

3) Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program; and

4) Verifying that the makeup filter unit heaters dissipate 4.5 ± 0.45 kW when tested in accordance with ANSI N510-1980.

f. After each complete or partial replacement of a HEPA filter bank, by verifying that the HEPA filter bank satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 6000 cfm ± 10% for the cleanup units and 1000 cfm ± 10% for the makeup units; and

g. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the charcoal adsorber bank satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.10% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 6000 cfm ± 10% for the cleanup units and 1000 cfm ± 10% for the makeup units.

Enclosure, Attachment 2

Annotated Technical Specification Bases Changes

For Information

(6 pages)

PLANT SYSTEMS

BASES

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 remain operable during an accident to ensure that the system design function is met.The toilet kitchen exhaust (excluding exhaust dampers), heating, and computer room HVAC Subsystem associated with the Control Room Makeup and Filtration System are non safety-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 most 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 rem total effective dose equivalent (TEDE). 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.

There is no automatic actuation or Surveillance Requirements of the Control Room Makeup and Cleanup Filtration System for toxic gas or smoke because the analysis for the South Texas Project has determined no actuation is required.

The accidents postulated to occur during core alterations, in addition to the fuel handling accident, are: inadvertent criticality (due to a control rod removal error or continuous rod withdrawal error during refueling or boron dilution) and the inadvertent loading of, and subsequent operation with, a fuel assembly in an improper location. These events are not postulated to result in fuel cladding integrity damage. Since the only accident to occur during CORE ALTERATIONS that results in a significant radioactive release is the fuel handling accident and the accident mitigation features of the Control Room Makeup and Cleanup Filtration System are not credited in the accident analysis for a fuel handling accident, there are no OPERABILITY requirements for this system in MODES 5 and 6.

ACTION a, b, and c.

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.

PLANT SYSTEMS

BASES

ACTION c allows all three trains of Control Room Makeup and Filtration System to be inoperable for a period of 12 hours. Although not all possible configurations can be anticipated, this ACTION is expected to occur when:

- An inoperable component is identified common to all three trains, or
- All three train fans are rendered inoperable by placing the fans in PULL-TO-LOCK to allow a material condition to be corrected that may be in a common ventilation plenum.

  Note: If the ventilation plenum is required to be breached, then ACTION d is also entered because the Control Room Makeup and Filtration Systems become inoperable due to an inoperable Control Room Envelope (CRE) boundary.

The Containment Spray System can be used as a compensatory measure to reduce the potential for radioactive material release under accident conditions when multiple trains of Control Room Makeup and Filtrations Systems are out of service. Procedures will preclude intentionally removing multiple trains of Control Room Makeup and Filtration Systems from service if Containment Spray is not functional or intentionally making a train of Containment Spray unavailable when multiple trains of Control Room Makeup and Filtration Systems *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 TS 3.7.7 cooling function is modeled in the PRA and a RICT can be calculated for an inoperable train of CRE HVAC cooling. The dose mitigation function is not modeled in the PRA because it has no effect on core damage frequency or large early release frequency. Consequently, there is no technical basis for calculating a RICT for an inoperable condition involving the dose mitigation function and the basis for application of the CRMP to TS 3.7.7 is that it will only be applied to the cooling function.

Although ACTIONs a, b, and c include the option of calculating a risk-informed completion time (RICT) in accordance with the requirements of the CRMP, application of the CRMP is currently permitted only for ACTION a because STPNOC determined that application of the CRMP to TS 3.7.7 ACTION b or ACTION c would be to extend the time to restore the required redundancy for the dose mitigation function, which would not be permitted under the licensing basis. STPNOC evaluations show that with a train of CRE HVAC in TS 3.7.7 Action a for loss of cooling (associated train of EW or EChW is inoperable), the system is capable of meeting its dose mitigation function, including the ability to withstand a single failure of a train providing pressurization/filtration or a train providing cooling in support of filter efficiency despite the unavailability of the train in maintenance. Postulation of a single failure while in the action statement is used to demonstrate that the CRMP is being applied for the cooling function and not being applied to extend the allowed outage time to restore necessary redundancy for the required doses mitigation function. Therefore, application of the CRMP to TS 3.7.7 Action a for one inoperable train of CRE HVAC is permissible.

PLANT SYSTEMS

BASES

The option to apply the CRMP to TS 3.7.7 ACTION a applies only to the cooling function of the system supported by the Essential Chilled Water System (EchW) (TS 3.7.14) and may not be applied for conditions that affect the operability of the system with respect to dose mitigation (i.e. CRE HVAC train inoperable due to inoperable fan or damper). In cases where both functions are affected (e.g., an inoperable damper or Make-up, Clean-up, Supply,or Return Fan) the dose mitigation function determines compliance and the "frontstop" completion time may not be exceeded.

ACTION d:

If the unfiltered in-leakage of potentially contaminated air past the CRE boundary and into the CRE can result in CRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem total effective dose equivalent (TEDE)), or inadequate protection of CRE occupants from hazardous chemicals or smoke, the CRE boundary is inoperable. Actions must be taken to restore an OPERABLE CRE boundary within 90 days.

An inoperable CRE boundary results in making one or more Control Room Makeup and Cleanup Filtration Systems inoperable. However, absent of an additional condition that results in the System(s) being inoperable other than for an inoperable boundary, only entry into ACTION d is required.

During the period that the CRE boundary is considered inoperable, action must be initiated to implement mitigating actions to lessen the effect on CRE occupants from the potential hazards of a radiological or chemical event or a challenge from smoke. 0PGP03-ZE-0030, "Control Room Envelope Habitability Program" discusses appropriate mitigating actions.

A note precedes ACTION d. For this condition, the Control Room Makeup and Cleanup Filtration Systems are inoperable only because the CRE boundary is inoperable. The note clarifies that the CRE boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power. TS ACTION 3.8.1.1.d with one standby diesel generator inoperable is satisfied when all required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generators as a source of emergency power are OPERABLE and the Control Room Makeup and Cleanup Filtration Systems are inoperable solely because the CRE boundary is inoperable. Since the boundary is a passive function that does not require emergency power, application of TS 3.8.1.1.d provides no effective compensatory action. Appropriate compensatory action is already required by the action of TS 3.7.7.d.

As stated in 0PGP03-ZE-0030, the mitigating actions are verified to ensure that CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable CRE boundary) should be preplanned for implementation upon entry into the condition, regardless of whether entry is intentional or unintentional. The 24 hour Completion Time for implementation of the mitigating actions is reasonable based on the low probability of a DBA occurring during this time period, and the use of the mitigating actions. The 90 day Completion Time is reasonable based on the determination that the mitigating actions will ensure protection of CRE occupants within analyzed limits while limiting the probability that CRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. In addition, the 90 day Completion Time is a reasonable time to diagnose, plan and possibly repair, and test most problems with the CRE boundary.

PLANT SYSTEMS

BASES

For purposes of the compensatory measure, described above when multiple trains of Control Room Makeup and Cleanup Filtration Systems and Containment Spray are affected, the purpose of the compensatory measure is met when the mitigating actions of Action d.(2). are in place. If multiple trains of Control Room Makeup and Cleanup Filtration System are inoperable solely because the CRE boundary is inoperable, then the affected trains can be considered to be in service when Action d.(2) is met and there are no restrictions in making a train (i.e. multiple trains are not allowed) of Containment Spray unavailable unless the mitigating actions require all Containment Spray Systems to be functional. Similarly, there are no restrictions on making multiple trains of Control Room Makeup and Cleanup Filtration Systems inoperable solely because the CRE boundary is inoperable if or when Containment Spray is not functional.

Surveillance Requirement 4.7.7.e.3 verifies the OPERABILITY of the CRE boundary by testing for unfiltered air in-leakage past the CRE boundary and into the CRE. The details of the testing are specified in the Control Room Envelope Habitability Program. The CRE is considered habitable when the radiological dose to CRE occupants calculated in the licensing basis analyses of DBA consequences is no more than 5 rem total effective dose equivalent (TEDE) and the CRE occupants are protected from hazardous chemicals and smoke. This SR verifies that the unfiltered air in-leakage into the CRE is no greater than the flow rate assumed in the licensing basis analyses of DBA consequences. When unfiltered air in-leakage is greater than the assumed flow rate in MODES 1, 2, 3, and 4, Action d must be entered. Action d allows time to restore the CRE boundary to OPERABLE status provided mitigating actions can ensure that the CRE remains within the licensing basis habitability limits for the occupants following an accident.

Compensatory measures are discussed in Regulatory Guide 1.196, Section C.2.7.3, which endorses, with exceptions, NEI 99-03, Section 8.4 and Appendix F. These compensatory measures may also be used as mitigating actions as required by Action d. Temporary analytical methods may also be used as compensatory measures to restore OPERABILITY. Options for restoring the CRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the CRE boundary, or a combination of these actions.

Compensatory actions (in support of Action d) also include administrative controls on coordinating opening or breaching the CRE boundary such that appropriate communication is established with the control room to assure timely closing of the boundary if necessary. Extended opening of the boundary is coordinated with the control room with appropriate plans for closure and communication.

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 persons entering or exiting the area. Entry and exit through doors under administrative controls does not require entry into Action d.

Depending upon the nature of the problem and the corrective action, a full scope in-leakage test may not be necessary to establish that the CRE boundary has been restored to OPERABLE status. There is no Control Room Makeup and Cleanup Filtration System actuation for hazardous chemical releases or smoke and there are no surveillance requirements that verify operability for hazardous chemical or smoke. The hazardous chemical analyses for the South Texas Project do not assume

any control room isolation and assumes air enters at normal makeup ventilation flow rates. No in-leakage test is required to determine unfiltered in-leakage from toxic gas since this would be a value much less than that currently assumed in the toxic gas analyses. There is no regulatory limit on the amount of smoke allowed in the control room. The plant's ability to manage smoke infiltration was assessed qualitatively. The conclusion is that the operator maintains the ability to safely shutdown the plant during a smoke event originating inside or outside the control room. Therefore, no in-leakage test is required to be conducted to measure the amount of smoke that could infiltrate into the control room.

ELECTRICAL POWER SYSTEMS

BASES

A.C. SOURCES, D.C. SOURCES, and ONSITE POWER DISTRIBUTION (Continued)

TS 3.8.1.1 Action d.

This action provides assurance that a loss of offsite power, during the period that a diesel generator is inoperable, does not result in a complete loss of safety function of critical systems. In this condition the remaining OPERABLE diesel generators and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. Thus, on a component basis, single failure protection for the required feature's function may be lost; however, function has not been lost. Discovering one required diesel generator inoperable coincident with one or more inoperable required support or supported features, or both, that are associated with the operable diesel generator, results in starting the completion time for the required action. If the required number of channels or trains for a function or component is less than the total number of channels or trains and the TS allow unlimited operation with less than the total number of channels or trains (e.g. some Remote Shutdown System functions), then as long as there is emergency power for at least the required number of channels or trains, the requirements of TS 3.8.1.1.d are met. Similarly, if only one Reactor Containment Fan Cooler, out of six available, is inoperable, then there are no restrictions applied on the diesel generators and Action statement 3.8.1.1(d) (1) can be met.

"...required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generator as a source of emergency power" mean SSCs that are required by the Technical Specifications. TS 3.8.1.1.d. does not apply to non-TS SSCs that are governed by other documents (e.g. TRM).

The Control Room Envelope boundary is not a required system, subsystem, train, component, or device that depends on a diesel generator as a source of emergency power. TS ACTION 3.8.1.1.d. with one standby diesel generator inoperable is satisfied when all required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generators as a source of emergency power are OPERABLE and the Control Room Makeup and Cleanup Filtration Systems are inoperable solely because the CRE boundary is inoperable.

The 24-hour completion time is based on the capability of the operable equipment to mitigate all but the most severe design basis accidents as described above and the extremely low probability of the occurrence of a design basis accident. The 24-hour completion time also allows a deliberate planned response that may allow the inoperable equipment to be restored.