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

August 15, 2000
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STI: 31153388

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

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Additional Information Regarding the Proposed Amendment to
South Texas Project Technical Specifications to Modify Requirements
Associated with Control Room and Fuel Handling Building HVAC Systems

References:

1. Letter from T. H. Cloninger, South Texas Project to the NRC Document Control Desk dated September 18, 1998 (NOC-AE-000305)

2. Letter from T. H. Cloninger, South Texas Project to the NRC Document Control Desk dated April 22, 1999 (NOC-AE-000513)

3. Letter from J. J. Sheppard, South Texas Project to the NRC Document Control Desk dated April 27, 2000 (NOC-AE-000822)

4. Letter from Tae Kim, NRC to William T. Cottle, South Texas Project, dated July 21, 2000 (AE-NOC-0000665)

The referenced letters describe a request from the South Texas Project to amend the operating licenses for Units 1 and 2 by changing the Technical Specifications to modify requirements associated with the Control Room and Fuel Handling Building HVAC Systems. The amendment proposes an allowed outage time of 12 hours for a condition where multiple trains of Control Room or Fuel Handling Building HVAC Systems are inoperable. In addition to the extended completion time, the proposed amendment includes changes to make the required action for the affected ventilation actuation instrumentation consistent with the action for inoperable ventilation trains and a minor administrative change to remove an expired dated action. Reference 3 essentially repackaged the information submitted in References 1 and 2 into a new submittal. This submittal responds to NRC Requests for Additional Information contained in Reference 4.

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The responses to the NRC Request for Additional Information include an editorial correction to one of the proposed changes to the Technical Specifications. There is no effect on the associated determinations of no significant hazards or environmental assessment. Clarifications to some of the Bases are provided as described in the attachments.

The required affidavit is attached.

If there are any questions regarding the proposed amendment, please contact Mr. A. W. Harrison at (361) 972-7298 or me at (361) 972-8757.

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

AWH/

Attachments:

1. Affidavit
2. Responses to Requests for Additional Information
3. Annotated Bases Pages
4. Revised Bases Pages
5. Corrected Technical Specification Page 3/4 7-16
6. List of Commitments

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

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter	)	
	)	
South Texas Project, et al.,	)	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 and Technical Services of STP Nuclear Operating Company; that I am duly authorized to sign and file with the Nuclear Regulatory Commission the attached additional information regarding a proposed Technical Specification amendment; 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 and 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 15th day of August, 2000.

LINDA RITTENBERRY
Notary Public, State of Texas
My Commission Expires
OCT. 9, 2001

Linda Rittenberry
Notary Public in and for the
State of Texas

RESPONSES TO REQUESTS FOR ADDITIONAL INFORMATION

1. Although this 12-hour AOT may not increase the probability of an accident, it will likely have a negative effect on mitigation. To demonstrate continued compliance with GDC 19 and 10 CFR Part 100, what compensatory measures are being taken to ensure the ability to mitigate the consequences of an accident should one occur during an AOT?

The compensatory actions listed below were identified in Item 10 of Attachment 4 to STPNOC's letter dated April 27, 2000 (NOC-AE-000822).

- **The Fuel Handling Accident can be precluded from consideration during the time three trains of Control Room Envelope HVAC are made inoperable by administratively suspending all operations involving CORE ALTERATIONS, movement of spent fuel, and crane operation with loads over the spent fuel pool. The required actions are incorporated into the Technical Specifications for Modes 1 – 6 where Specification 3.7.7 applies. A similar administrative control will be incorporated into STP procedures for the defueled condition. (This defueled condition administrative control was not described in the earlier letter.)**

- **Containment Spray can be used to reduce the potential for radioactive material release under accident conditions. For MODES 1, 2, 3, and 4, 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.**

- **The effects of a Fuel Handling Accident are precluded by suspending all operations involving movement of fuel within the spent fuel pool or crane operations with loads over the spent fuel pool with no Fuel Handling Building air filter trains OPERABLE required by Specification 3/4.9.12. Procedures will impose this action regardless of whether the Technical Specification action was a planned entry or an emergent condition.**

- **STP will not intentionally enter the action for multiple trains out of service for Specification 3.7.7 and Specification 3.7.8 simultaneously in Mode 1, 2, 3, or 4, or during reduced RCS inventory operations. This compensatory action has been clarified to apply during these conditions because the action described above to suspend core alterations, movement of spent, and crane operation with loads over the spent fuel pool is adequate to preclude the potential accidents in Modes 5 and 6 and with normal RCS inventory.**

- **Procedures will require appropriate communications between the control room and person(s) opening the ventilation system or breaching the boundary integrity for extended periods of time to assure that the opening can be closed promptly if necessary.**

Additional compensatory actions may be implemented depending on the configuration of the inoperable system. Although not all potential inoperable configurations can be anticipated, they would normally be expected to fall in one or more of the following three categories:

1. **A breach of the room boundary.**
2. **A breach of the ventilation system itself (e.g., opening of a common plenum).**
3. **Degraded or inoperable component in more than one train (e.g., vendor identified common mode problem).**

Compensatory actions specific to each of these categories would include (in addition to those listed above):

1. **For the breach of the room boundary that makes all trains of the system inoperable:**
   - **Pre-planned process for closing the breach in the unlikely event of an accident or identification of an accident precursor (e.g., unidentified RCS leakage).**
   - **Direct communications with the control room as described above with on-station personnel pre-briefed regarding their responsibility for closing the breach.**
2. **For the breach of the ventilation system boundary that makes all trains of the system inoperable:**
   - **Pre-planned process for closing the breach in the unlikely event of an accident or identification of an accident precursor (e.g., unidentified RCS leakage).**
   - **Direct communications with the control room as described above with on-station personnel pre-briefed regarding their responsibility for closing the breach.**
   - **Consideration of placing fans in pull-to-lock or positioning dampers (if appropriate for the situation) to assure there would be no transport of potentially contaminated air into a clean area. Once the breach is closed, the fans may be started if they are functional.**
3. **For degraded or inoperable components in all trains:**
   - **This is probably the least likely to occur of the three categories. Depending on the nature of the nonconformance, there may be some degree of functionality retained by the system. In addition, it is very unlikely that a common mode failure would actually cause all trains to fail simultaneously. Actions for inoperable components could include placing fans in pull-to-lock, manually positioning dampers, providing temporary power supplies, etc.**

Finally, in the unlikely event of an accident while all trains of CRE HVAC are inoperable and the compensatory actions are not effective, self-contained

breathing apparatus (SCBA) is readily available to the control room operators. If a design basis event occurred when all HVAC was inoperable, STP would perform facility habitability checks in the control room as part of the Emergency Plan. These habitability checks would identify the need to don SCBA. In addition, Potassium Iodide (KI) is available and may be administered at the direction of the Emergency Director.

The proposed Bases have been revised to incorporate placing fans in pull-to-lock as a potential compensatory action. The other compensatory actions were already generally described in the proposed Bases changes.

2. What is the increase in unfiltered in-leakage in the control room envelope and what is the basis for that determination? If there is an increase in unfiltered in-leakage, has it been factored into a revised dose analysis? Using the current licensing-basis assumptions, what increase in dose to the operator would result from the increase in unfiltered in-leakage? (i.e., will the dose limits continue to be met?)

   The increase in unfiltered in-leakage and the associated increase in dose was not calculated. STPNOC believes that there is reasonable assurance that the dose limits will continue to be met by application of the compensatory actions described above.

3. With an inoperable fuel building ventilation system, what is the increase in the potential offsite doses? Will 10 CFR Part 100 continue to be met? Will GDC 19 continue to be met? Does the DBA calculations reflect this change in your assumptions?

   STPNOC believes there is reasonable assurance that the dose limits will continue to be met by application of the compensatory actions described above. In particular, if the FHB exhaust fans are put in pull-to-lock, there will be no motive force to transport contaminated air from the lower elevations where the SI pump seal leakage is postulated to occur during a design basis LOCA.

4. Discuss the effects the AOT will have on required control room alarms, controls, and displays.

   The potential effect of the extended AOT would be from heat-up of components if control room envelope ventilation was lost for an extended period of time. STPNOC evaluations have determined that there will be no heat-up effects for at least 24 hours, which is substantially greater than the 12 hours requested for the AOT in the proposed amendment. Consequently, the proposed AOT is expected to have no effect on required control room alarms, controls, and displays.

5. Describe changes that the AOT will have on operator training as required by 10 CFR 55.59.

STPNOC routinely trains STP operators on changes to the Technical Specifications as part of the operators' requalification. When approved, this change will be included in that training. The training will cover the changes to the Technical Specifications and the basis for the change, including the contingency actions. Control room operators are required to maintain qualification for wearing SCBAs. Training of the use of KI tablets is part of the control room operator training program.

6. With respect to proposed Action 27, it is stated that Action 27 is modified to declare the ventilation train associated with the inoperable channel inoperable and requires the action for an inoperable ventilation train be carried out per Specification 3.7.7.... However, we found that there is no clear definition of a system or a train when used in the context of this request. For example, Action 27 refers to a ventilation train being inoperable and carrying out the actions of Specification 3.7.7. Whereas Specification 3.7.7 refers to action to be taken when systems are inoperable. For the control room makeup and cleanup filtration system, neither the TS nor the associated Bases defines a system or a train.

   In this case, train and system are used interchangeably. The Bases has been revised to assure this is clear for the user and a brief description of the Control Room Makeup and Cleanup Filtration System has been added. The revised pages are attached.

7. How does STP account for the proposed increase in unavailability of the control room HVAC in its initiating event frequency modeled in the PRA [probabilistic risk assessment]?

   There is no increase in the unavailability of the control room HVAC in the PRA initiating event model. Control room HVAC must be lost for approximately 24 hours before the initiating event occurs, and this assumes that the operators do nothing to mitigate the heatup during that time period. Since the proposed AOT is only 12 hours, STP would be shutting down the unit before the initiating event would occur.

8. STP also stated "Control Room...HVAC...are not designed to mitigate core damage...." (page 9 of 4/27/2000 submittal). Although CR HVAC may not be explicitly modeled in the PRA for an accident mitigation effort, it is implicitly assumed that CR HVAC would be available and thus allow the control room operators to participate in the mitigation effort.

   Please assess operator response actions modeled in the PRA and provide justification that the human reliability assumed in the PRA would not be degraded by radiological environment if an accident were to occur when the HVAC was unavailable.

STPNOC believes there is reasonable assurance the compensatory actions described earlier would be effective. Maintaining direct communications with the control room with a plan for closing a breach allows the operators to retain control of the evolution. STPNOC believes that work can be planned such that boundary or system breaches can be closed promptly, typically within an hour. In the meantime, the compensatory actions to minimize doses to the operators (fans in pull-to-lock, dampers isolated, etc.) would preclude any significant dose to the operators for the time it would take to close the breach in the system. Consequently, STPNOC would not expect development of a radiological environment that might significantly affect control room operator reliability. In addition, assuming the other mitigating systems function as designed, no core damage would be expected. In this case, there would be no effect on the operators.

With respect to the case where the loss of the Control Room HVAC is considered as an initiating event, there is no effect on operator human reliability. As noted in the response to Question 7, the proposed AOT is 12 hours, compared to the 24 hours that HVAC must be lost before the heatup driven initiating event is assumed to occur. Consequently, the system would either be restored, or the plant would be shutdown such that there would be no event to challenge the operators.

9. STP's current "risk" analysis stops at declaring that the annual probability of a design-basis accident is low and concludes that there is no increase in CDF [core damage frequency] or LERF [large early release frequency] as a result of the proposed change. If human reliability (discussed in #2) is expected to be degraded, provide an assessment of the impact of HVAC unavailability on human reliability and show that the risk impact meets the guideline of Regulatory Guides 1.174 and 1.177.

As noted above, human reliability is not expected to be degraded.

10. STP stated that the most significant difference between the STP application and TSTF [Technical Specifications Task Force]-287 is that the TSTF is limited to system inoperability caused by an inoperable boundary whereas STP does not believe the cause of the inoperable condition is relevant. What other causes does STP envision and what impact would they have on "closing the opening promptly"? Consequently, what impact would that have on the operators' ability to mitigate an accident and how would that impact the results of the type of risk analysis addressed in Question #8?

The other potential causes are categorized in the response to Question 1. As noted in the response to Question 8, STPNOC believes that work can be planned such that boundary or system breaches can be closed promptly. Both the CRE HVAC and FHB HVAC systems are readily accessible and located in a mild environment. Access to only a few components affects more than one train of either system. STPNOC believes there is reasonable assurance that the compensatory actions will be effective. Consequently, STPNOC does not believe there is any significant effect

on the operators' ability to mitigate an accident and no additional risk analyses are required in that regard.

In addition to the changes mentioned in the response to the questions above, STPNOC corrected the Bases for Specification 3.7.7 to remove the reference to GDC 60 and Part 100 since the CRE HVAC is not relied on to mitigate off-site release. The Bases for Specification 3.7.8 was revised to add protection of the public to the statement regarding meeting the intent of GDC 19, GDC 60, and Part 100.

A typographical error was found in ACTION c of proposed Technical Specification 3/4.7.7 where "...with 12 hours" should have been "...within 12 hours". Two incorrectly used commas in ACTION b. for MODES 5 and 6 were removed. These corrections are editorial and have no effect on the requirements of the Specifications. The corrected Page 3/4 7-16 is attached (annotated version and clean version).

REVISED ANNOTATED BASES PAGES

REACTOR TRIP SYSTEM and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

The measurement of response time at the specified frequencies provides assurance that the Reactor trip and the Engineered Safety Features actuation associated with each channel is completed within the time limit assumed in the safety analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable. Response time may be demonstrated by any series of sequential, overlapping, or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either: (1) in place, onsite, or offsite test measurements, or (2) utilizing replacement sensors with certified response times.

The Engineered Safety Features Actuation System senses selected plant parameters and determines whether or not predetermined limits are being exceeded. If they are, the signals are combined into logic matrices sensitive to combinations indicative of various accidents, events, and transients. Once the required logic combination is completed, the system sends actuation signals to those Engineered Safety Features components whose aggregate function best serves the requirements of the condition. As an example, the following actions may be initiated by the Engineered Safety Features Actuation System to mitigate the consequences of a steam line break or loss-of-coolant accident: (1) Safety Injection pumps start, (2) Reactor trip, (3) feedwater isolation, (4) startup of the standby diesel generators, (5) containment spray pumps start and automatic valves position, (6) containment isolation, (7) steam line isolation, (8) Turbine trip, (9) auxiliary feedwater pumps start and automatic valves position, (10) reactor containment fan coolers start, (11) essential cooling water pumps start and automatic valves position, (12) Control Room Ventilation Systems start, and (13) component cooling water pumps start and automatic valves position.

ACTION 27 for an inoperable channel of control room ventilation requires the associated train of control room ventilation to be declared inoperable and the appropriate action take in accordance with Specification 3.7.7. Each control room ventilation system (train) is actuated by its own instrumentation channel. Consequently an inoperable channel of ventilation actuation instrumentation renders that system/train of ventilation inoperable and Specification 3.7.7 prescribes the appropriate action.

With less than the minimum channels of Control Room Intake Air Radioactivity – High, ACTION 28 of Table 3.3-3 requires the Control Room Makeup and Cleanup Filtration System to be operated at 100% capacity in the recirculation and filtration mode. Any two of the three 50% Control Room Makeup and Cleanup Filtration System trains meet the 100% capacity requirement.

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.

B 3/4.7.6 (Not used)

B 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 redundant 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 31-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 or Appendix A, 10 CFR Part 50. 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 trains(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:

- In MODES 1, 2, 3 and 4, 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.

B 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 trains(s) is out of service. 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 and the public 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 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.

~~For Unit 2 only, from the date of amendment issuance through July 14, 1999, the limited allowed outage time is allowed for all of components of the Fuel Handling Building Exhaust Air System to be out of service in recognition of the fact that there are common plenums and the repair to the exhaust booster fan requires opening or entry into these plenums. This is acceptable based on the low probability of a design basis event in the brief allowed outage time and because administrative controls are imposed on the activities that provide for compensatory action to restore integrity of the system.~~

B 3/4.7.9 (Not Used)

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REVISED BASES PAGES

REACTOR TRIP SYSTEM and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

The measurement of response time at the specified frequencies provides assurance that the Reactor trip and the Engineered Safety Features actuation associated with each channel is completed within the time limit assumed in the safety analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable. Response time may be demonstrated by any series of sequential, overlapping, or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either: (1) in place, onsite, or offsite test measurements, or (2) utilizing replacement sensors with certified response times.

The Engineered Safety Features Actuation System senses selected plant parameters and determines whether or not predetermined limits are being exceeded. If they are, the signals are combined into logic matrices sensitive to combinations indicative of various accidents, events, and transients. Once the required logic combination is completed, the system sends actuation signals to those Engineered Safety Features components whose aggregate function best serves the requirements of the condition. As an example, the following actions may be initiated by the Engineered Safety Features Actuation System to mitigate the consequences of a steam line break or loss-of-coolant accident: (1) Safety Injection pumps start, (2) Reactor trip, (3) feedwater isolation, (4) startup of the standby diesel generators, (5) containment spray pumps start and automatic valves position, (6) containment isolation, (7) steam line isolation, (8) Turbine trip, (9) auxiliary feedwater pumps start and automatic valves position, (10) reactor containment fan coolers start, (11) essential cooling water pumps start and automatic valves position, (12) Control Room Ventilation Systems start, and (13) component cooling water pumps start and automatic valves position.

ACTION 27 for an inoperable channel of control room ventilation requires the associated train of control room ventilation to be declared inoperable and the appropriate action take in accordance with Specification 3.7.7. Each control room ventilation system (train) is actuated by its own instrumentation channel. Consequently an inoperable channel of ventilation actuation instrumentation renders that system/train of ventilation inoperable and Specification 3.7.7 prescribes the appropriate action.

With less than the minimum channels of Control Room Intake Air Radioactivity – High, ACTION 28 of Table 3.3-3 requires the Control Room Makeup and Cleanup Filtration System to be operated at 100% capacity in the recirculation and filtration mode. Any two of the three 50% Control Room Makeup and Cleanup Filtration System trains meet the 100% capacity requirement.

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.

B 3/4.7.6 (Not used)

B 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 31-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 or Appendix A, 10 CFR Part 50. 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 trains(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.

B 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 trains(s) is out of service. 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 and the public 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 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.

B 3/4.7.9 (Not Used)

CORRECTED TECHNICAL SPECIFICATION PAGE 3/4 7-16

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 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 ~~two~~ more than one Control Room Makeup and Cleanup Filtration System 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, ~~or~~ positive reactivity changes, 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;

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 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 System 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, positive reactivity changes, 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;

LIST OF COMMITMENTS

Commitments Made in this Submittal

The commitments listed below were made to facilitate the proposed changes to the Technical Specifications. The additions resulting from this response to the NRC RAIs are depicted in bold. Appropriate changes have been incorporated into the proposed Bases for the associated Technical Specification. These commitments will maintained in accordance with the South Texas Project procedure for Licensing Commitment Management and Administration.

1) Containment Spray can be used to reduce the potential for radioactive material release under accident conditions. For MODES 1, 2, 3, and 4, 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 of Control Room Envelope HVAC are out of service.

2) STP will not intentionally enter the action for multiple trains out of service for Specification 3.7.7 and Specification 3.7.8 simultaneously **in Mode 1, 2, 3, or 4, or during reduced RCS inventory operations.**

3) Procedures will require appropriate communications between the control room and person(s) opening the ventilation system or breaching the boundary integrity for extended periods of time to assure that the opening can be closed promptly if necessary.

4) The Fuel Handling Accident can be precluded from consideration during the time three trains of Control Room Envelope HVAC are made inoperable by administratively suspending all operations involving CORE ALTERATIONS, movement of spent fuel, and crane operation with loads over the spent fuel pool. The required actions are incorporated into the Technical Specifications for Modes 1 – 6 where Specification 3.7.7 applies. **A similar administrative control will be incorporated into STP procedures for the defueled condition. (This defueled condition administrative control was not described in previous correspondence.)**

Procedures will be revised to reflect appropriate pre-planning as described below:

1. **For the breach of the room boundary that makes all trains of the system inoperable:**
   - **Pre-planned process for closing the breach in the unlikely event of an accident or identification of an accident precursor (e.g., unidentified RCS leakage).**
   - **Direct communications with the control room as described above with on-station personnel pre-briefed regarding their responsibility for closing the breach.**
2. **For the breach of the ventilation system boundary that makes all trains of the system inoperable:**
   - **Pre-planned process for closing the breach in the unlikely event of an accident or identification of an accident precursor (e.g., unidentified RCS leakage).**
   - **Direct communications with the control room as described above with on-station personnel pre-briefed regarding their responsibility for closing the breach.**
   - **Consideration of placing fans in pull-to-lock or positioning dampers (if appropriate for the situation) to assure there would be no transport of potentially contaminated air into a clean area. Once the breach is closed, the fans may be started if they are functional**

3. **For inoperable or degraded components in all trains, considering, as appropriate:**
   - **Placing fans in pull-to-lock**
   - **Manually positioning dampers**
   - **Providing temporary power**
   - **Other actions as determined by the system configuration**