



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

August 26, 2004
NOC-AE-04001780
File: G-25
10CFR50.90

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
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11555 Rockville Pike
Rockville, MD 20852

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498 and STN 50-499
License Amendment Request
Proposed Revision to the Technical Specifications Regarding
Deletion of requirements related to Hydrogen Recombiners and Hydrogen Analyzers
Using the Consolidated Line Item Improvement Process

STP Nuclear Operating Company (STPNOC) submits the attached proposed amendment to South Texas Project Operating Licenses NPF-76 and NPF-80. This license amendment request proposes revising the Technical Specifications (TS) to delete the TS requirements related to Hydrogen Analyzers and Hydrogen Recombiners in Specifications 3.6.4.1 and 3.6.4.2, respectively, consistent with NRC-approved Industry/Technical Specification Task Force (TSTF) Traveler number TSTF-447 Revision 1, "Elimination of Hydrogen Recombiners and Change to Hydrogen and Oxygen Monitors." The availability of this Technical Specification improvement was announced in the Federal Register on September 25, 2003 as part of the Consolidated Line Item Improvement Process (CLIIP).

STPNOC requests approval of the proposed amendment by August 1, 2005 and requests 60 days for implementation of the amendment after it is approved.

The STPNOC Plant Operations Review Committee has reviewed and concurred with the proposed change to the Technical Specifications.

Attachment 1 provides a description of the proposed change, the requested confirmation of applicability, and plant-specific verifications and commitments. Attachment 2 provides the existing TS pages marked-up to show the proposed change. Attachment 3 provides revised TS pages. Implementation of TSTF-447 also involves various changes to the TS Bases. Attachment 4 provides marked-up TS Bases for information. The TS Bases changes will be submitted with a future update in accordance with TS 6.8.3 m, "Technical Specifications (TS) Bases Control Program."

A021

STI:31784365

STPNOC has determined that this License Amendment Request (LAR) does not involve a significant hazard consideration as determined per 10 CFR 50.92. Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of this amendment.

Commitments made in this license amendment request are identified in Attachment 1, section 6.0.

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

If there are any questions regarding the proposed amendment, please contact Mr. W. R. Bealefield at (361) 972-7696 or me at (361) 972-7902

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

Executed on August 26, 2004



T. J. Jordan
Vice President,
Engineering & Technical Services

wrb/

Attachments:

1. Description of Changes and Safety Evaluation
2. Annotated Technical Specification Pages
3. Retyped Technical Specification Pages
4. Annotated Technical Specifications Bases Changes (Information Only)

cc:
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Attachment 1

Description of Changes and Safety Evaluation

Description of Changes and Safety Evaluation

1.0 Description

The proposed amendment would delete Technical Specification (TS) requirements related to hydrogen analyzers and hydrogen recombiners in Specifications 3.6.4.1 and 3.6.4.2, respectively. The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) change TSTF-447, Revision 1, "Elimination of Hydrogen Recombiners and Change to Hydrogen and Oxygen Monitors", as noticed in the Federal Register published on September 25, 2003 reference 9.1. That Federal Register Notice announced the availability of this TS improvement through the Consolidated Line Item Improvement Process (CLIIP).

The proposed TS changes support implementation of the revisions to 10 CFR 50.44, "Standards for Combustible Gas Control System in Light-Water-Cooled Power Reactors,"

A summary of the proposed changes and their justification, presented in table format, is provided below.

TS Number	Description	Proposed Change	Justification
Table 3.3-10	Accident Monitoring Instrumentation-Instrument 20 Containment Hydrogen Concentration	Delete instrument 20	TSTF-447 revision 1 10 CFR 50.44
Table 4.3-7	Accident Monitoring Instrumentation Surveillance Requirements-Instrument 20. Containment Hydrogen Concentration	Delete instrument 20	TSTF 447 revision 1 10 CFR 50.44
3.6.4.1	Combustible Gas Control Hydrogen Analyzers	Delete Limiting Condition for Operation and Surveillance Requirements	TSTF-447 revision 1 10 CFR 50.44
3.6.4.2	Combustible Gas Control Electric Hydrogen Recombiners	Delete Limiting Condition for Operation and Surveillance Requirements	TSTF-447 revision 1 10 CFR 50.44

The TS Bases will be revised to reflect these changes to the affected bases sections in accordance with TS 6.8.3.m, "Technical Specifications (TS) Bases Control Program," as part of the implementation of this amendment, upon NRC approval of this amendment application. Proposed changes to the TS Bases are provided for information only in Enclosure 4.

2.0 Assessment

Applicability of Published Safety Evaluation

STP Nuclear Operating Company (STPNOC) has reviewed the safety evaluation dated August 4, 2003, as part of TSTF-447 Rev. 1 reference 9.2. This review included the NRC staff evaluation and the supporting information provided to support TSTF-447 Rev. 1. 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 amendment for incorporating the changes into the STP TS.

3.0 Regulatory Analysis

No Significant Hazards Determination

STPNOC has reviewed the proposed No Significant Hazards Consideration Determination (NSHCD) published in the Federal Register as part of the CLIIP. STPNOC has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to STP and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

4.0 Regulatory Requirements and Guidance

The applicable regulatory requirements and guidance associated with this application are adequately addressed by the NRC Notice of Availability published on September 25, 2003 (68 FR 55416-55421), TSTF-447, Revision 1, the documentation associated with the 10 CFR 50.44 rulemaking, and other related documents.

5.0 Technical Analysis

STPNOC has reviewed the safety evaluation (SE) published on September 25, 2003 (68 FR 55416-55421), as part of the CLIIP Notice of Availability. This verification included a review of the NRC staffs SE, as well as the supporting information provided to support TSTF-447, Revision 1. STPNOC has concluded that the justifications presented in the TSTF proposal and the SE prepared by the NRC staff are applicable to South Texas Project Electric Generating Station, Units 1 and 2, and justify this amendment for the incorporation of the changes to the STP TS.

6.0 Verification and Commitments

As discussed in the model SE published in the Federal Register on September 25, 2003 (68 FR 55416-55421), for this TS improvement, STPNOC is making the following verifications and regulatory commitments:

1. STPNOC has verified that a hydrogen monitoring system capable of diagnosing beyond design-basis accidents is installed at STP and is making a regulatory commitment to maintain that capability. The hydrogen monitors will be included in the Technical Requirements Manual (TRM). This regulatory commitment will be implemented within 60 days of issuance of the license amendment.
2. STP does not have an inerted containment.

7.0 Environmental Evaluation

STPNOC has reviewed the environmental evaluation included in the model safety evaluation dated August 4, 2003, as part of TSTF-447 rev. 1 reference 9.2 and the environmental consideration in NRC staff model published on September 25, 2003 (68 FR 55416-55421). STPNOC has concluded that the staff's findings presented in those evaluations are applicable to STP and the evaluations are hereby incorporated by reference for this application.

8.0 Precedent

This application is being made in accordance with the CLIIP. STPNOC is not proposing variations or deviations from the TS changes described in TSTF-447, Revision 1, or the NRC staffs model Application published on September 25, 2003 (68 FR 55416-55421) for Pressurized Water Reactors.

9.0 References

9.1 Federal Register Notice: Notice of Availability of Model Application Concerning Technical Specification Improvement to Eliminate Hydrogen Recombiner Requirement, and Relax the Hydrogen and Oxygen Monitor Requirements for Light Water Reactors Using Consolidated Line Item Improvement Process, published September 25, 2003 (68 FR 55416-55421).

9.2 Technical Specification Task Force Traveler TSTF-447 Revision 1.
Elimination of Hydrogen Recombiners and Change to Hydrogen and Oxygen Monitors

Attachment 2

Annotated Technical Specification Pages

TABLE 3.3-10 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>ACTION</u>
13. Containment Water Level (Narrow Range)	2	1	36
14. Containment Water Level (Wide Range)	3	1	37
15. Core Exit Thermocouples	**2	**1	42
16. Steam Line Radiation Monitor	1/steam line	1/steam line	40
17. Containment – High Range Radiation Monitor	2	1	39
18. Reactor Vessel Water Level (RVWL)	2*	1*	41
19. Neutron Flux (Extended Range)	2	1	36
20. Containment Hydrogen Concentration	2	4	36
21. Containment Pressure (Extended Range)	2	1	36
22. Steam Generator Blowdown Radiation Monitor	1/blowdown line	1/blowdown line	40
23. Neutron Flux – Startup Rate (Extended Range)	2	1	36

* A channel is eight sensors in a probe. A channel is OPERABLE if four or more sensors, one or more in the upper section section and three or more in the lower section, are OPERABLE.

** A channel is OPERABLE if at least two core exit thermocouples per core quadrant are OPERABLE, and at least one quadrant has at least four OPERABLE thermocouples.

TABLE 4.3-7 (Continued)

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
18. Reactor Vessel Water Level (RVWL)	M	R
19. Neutron Flux (Extended Range)	M	R
20. Containment Hydrogen Concentration	M	R
21. Containment Pressure (Extended Range)	M	R
22. Steam Generator Blowdown Radiation Monitor	M	R
23. Neutron Flux – Startup Rate (Extended Range)	M	R

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION

3.6.4.1 — ~~Two independent containment hydrogen analyzers shall be OPERABLE.~~

APPLICABILITY: — ~~MODES 1 and 2.~~

ACTION:

— ~~a. With one hydrogen analyzer inoperable, restore the inoperable analyzer to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.~~

— ~~b. With both hydrogen analyzers inoperable, restore at least one analyzer to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.~~

SURVEILLANCE REQUIREMENTS

4.6.4.1 — ~~Each hydrogen analyzer shall be demonstrated OPERABLE by the performance of a CHANNEL CHECK at least once per 12 hours, an ANALOG CHANNEL OPERATIONAL TEST at least once per 31 days, a channel OPERABILITY verification at least once per 92 days on a STAGGERED TEST BASIS using sample gas containing one volume percent hydrogen, balance nitrogen, and by performing a CHANNEL CALIBRATION at least once per 18 months using sample gas containing ten volume percent hydrogen, balance nitrogen~~

CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

3.6.4.2—~~Two independent Hydrogen Recombiner Systems shall be OPERABLE.~~

APPLICABILITY:—~~MODES 1 and 2.~~

ACTION:

~~With one Hydrogen Recombiner System inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.~~

SURVEILLANCE REQUIREMENTS

4.6.4.2—~~Each Hydrogen Recombiner System shall be demonstrated OPERABLE:~~

- a.—~~At least once per 6 months by verifying, during a Hydrogen Recombiner System functional test, that the minimum heater sheath temperature increases to greater than or equal to 1000°F within 90 minutes at 52 kW. Upon reaching 1000°F, increase the power setting to maximum power for 2 minutes and verify that the power meter reads greater than or equal to 65 kW, and~~
- b.—~~At least once per 18 months by:~~
 - 1)—~~Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits,~~
 - 2)—~~Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosure (i.e., loose wiring or structural connections, deposits of foreign materials, etc.), and~~
 - 3)—~~Verifying the integrity of all heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 10,000 ohms.~~

Attachment 3

Retyped Technical Specification Pages

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION

3.6.4.1 Section 3.6.4.1 has been deleted

CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

3.6.4.2 Section 3.6.4.2 has been deleted

TABLE 3.3-10 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>ACTION</u>
13. Containment Water Level (Narrow Range)	2	1	36
14. Containment Water Level (Wide Range)	3	1	37
15. Core Exit Thermocouples	**2	**1	42
16. Steam Line Radiation Monitor	1/steam line	1/steam line	40
17. Containment - High Range Radiation Monitor	2	1	39
18. Reactor Vessel Water Level (RVWL)	2*	1*	41
19. Neutron Flux (Extended Range)	2	1	36
20. Not Used			
21. Containment Pressure (Extended Range)	2	1	36
22. Steam Generator Blowdown Radiation Monitor	1/blowdown line	1/blowdown line	40
23. Neutron Flux - Startup Rate (Extended Range)	2	1	36

* A channel is eight sensors in a probe. A channel is OPERABLE if four or more sensors, one or more in the upper section section and three or more in the lower section, are OPERABLE.

** A channel is OPERABLE if at least two core exit thermocouples per core quadrant are OPERABLE, and at least one quadrant has at least four OPERABLE thermocouples.

TABLE 4.3-7 (Continued)ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
18. Reactor Vessel Water Level (RVWL)	M	R
19. Neutron Flux (Extended Range)	M	R
20. Not Used		
21. Containment Pressure (Extended Range)	M	R
22. Steam Generator Blowdown Radiation Monitor	M	R
23. Neutron Flux - Startup Rate (Extended Range)	M	R

Attachment 4

**Technical Specifications Bases Changes
(Information Only)**

FOR INFORMATION ONLY

CONTAINMENT SYSTEMS

BASES

3/4.6.2.3 CONTAINMENT COOLING SYSTEM (continued)

STPEGS has three groups of Reactor Containment Fan Coolers (RCFCs) with two fans in each group (total of six fans). Five fans are adequate to satisfy the safety requirements including single failure. If only one RCFC, out of six available, is inoperable, then there are no restrictions applied on the diesel generators by the RCFC condition and Action statement 3.8.1.1(d) (1) can be met. The fan cooler units are designed to remove heat from the containment during both normal operation and accident conditions. In the event of an accident, all fan cooler units are automatically placed into operation on receipt of a safety injection signal. During normal operation, cooling water flow to the fan cooler units is supplied by the non-safety grade chilled water system. Following an accident, cooling water flow to the fan coolers is supplied by the safety grade component cooling water system. The chilled water system supplies water at a lower temperature than that of the component cooling water system and therefore requires a lower flow rate to achieve a similar heat removal rate.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of General Design Criteria 54 through 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

In the event one containment isolation valve in one or more penetrations is inoperable, and the inoperable valve(s) cannot be restored to OPERABLE status within 24 hours, the affected penetration(s) must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and deactivated automatic isolation valve, a closed manual valve, a blind flange, or a check valve with flow through the valve secured (a check valve may not be used to isolate an affected penetration flow path in which more than one isolation valve is inoperable or in which the isolation barrier is a closed system with a single isolation valve). For a penetration flow path isolated in accordance with Action b or c, the device used to isolate the penetration should be the closest available one to containment and does not have to be a General Design Criterion containment isolation valve.

In cases where multiple isolation valves use the same pipe going through the penetration and with one or more isolation valves inoperable, as long as the inoperable valve(s) is deactivated/manually isolated in its isolation position and the interconnecting isolation valves are operable, the appropriate Action statement is met. In these cases, the Action statement "Isolate each affected penetration..." means "Isolate each affected penetration flow path". (CR 97-908-1)

3/4.6.4 COMBUSTIBLE GAS CONTROL

~~The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with: (1) zirconium-water reactions, (2) radiolytic decomposition of water, and (3) corrosion of metals within containment. These Hydrogen Control Systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," Revision 2, November 1978.~~

SOUTH TEXAS - UNITS 1 & 2

B 3/4 6-4

Unit 1 - Amendment No.

Unit 2 - Amendment No.

02-6107