Nuclear Operating Company

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

December 9, 2010
NOC-AE-10002624
10CFR54
STI: 32795201

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

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Response to Request for Additional Information
for the South Texas Project License Renewal Application

Reference: 1. Letter dated October 25, 2010, from G. T. Powell, STPNOC, to NRC Document Control Desk, "License Renewal Application," (NOC-AE-10002607)
2. "South Texas Project LRA – RAI 4.1-1 on missing exemption under 10CFR50.12" (ML103400343)

By Reference 1, STP Nuclear Operating Company (STPNOC) submitted the License Renewal Application (LRA) for South Texas Project (STP) Units 1 and 2. By Reference 2, the NRC staff requested additional information needed to continue their review of the STP LRA.

STPNOC's response to the request for additional information is included in the Enclosure to this letter. LRA Amendment 1 resulting from the responses is included in the Enclosure showing the changes with line-in/line-out annotations.

There are no regulatory commitments in this letter.

Should you have any questions regarding this letter, please contact Ken Taplett, our License Renewal Project Regulatory point-of-contact at (361) 972-8416.

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

Executed on December 9, 2010.
Date

G. T. Powell

G. T. Powell
Vice President,
Technical Support & Oversight

KJT

Enclosure: Response to Request for Additional Information

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NRR

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Enclosure

Response to Request for Additional Information

Note: The Enclosure includes changes with line-in/line-out annotations.

Response to Request for Additional Information

NRC Request for Information 4.1-1

Background: 10 CFR 54.21(c)(2) requires an applicant to provide a list of all exemptions that have been granted pursuant to 10 CFR 50.12 and that are based on a time-limited aging analysis (TLAA). LRA Section 4.8 provides the applicant's list of exemptions that need to be identified in accordance with 10 CFR 54.21(c)(2). The applicant identified LBB as the only exemption that was granted based on a TLAA.

By letter dated May 4, 1999 (NRC Microfiche Accession 9905110094, Microfiche Address A7956, Pages 355 – 359), the staff issued to the applicant an exemption under 10 CFR 50.12 granting [STPNOC] the right to apply ASME Code Case N-514 as the basis for establishing the low temperature over-pressurization protection (LTOP) system pressure lift and arming temperature set points for the credited power operated relief valves (PORVs). It also granted the use of the Code Case as a basis for setting the LTOP system pressure lift set points for the relief valves to a pressure value that is equivalent to 110% of the limiting pressure established in the approved P-T limits curve for the system's temperature enable set point. The staff noted that the exemption granting the use of the Code Case also permitted the applicant to set the arming temperature for the LTOP system in accordance with the Code Case N-514 arming temperature setpoint methodology.

LRA Section 4.2 identifies that the P-T limits for Units 1 and 2 are TLAAs for the LRA. The staff noted that the LTOP system set points are currently within the scope of Technical Specification limiting condition of operation (LCO) 3.4.9.3 and surveillance requirement (SR) 4.4.9.3 and the P-T limits are currently within the scope of Technical Specification LCO 3.4.9.2 and SR 4.4.9.2.

Issue: The staff noted that granting this exemption and the establishment of the LTOP system pressure set point was a function of the limiting pressure value established in the P-T limit curves for the LTOP systems enable temperature. The staff's position is that, if this exemption remains in effect for the CLB, the exemption may need to be identified as an exemption for the LRA that meets the requirements in 10 CFR 54.21(c)(2) because granting the exemption under 10 CFR 50.12 was based on a value in the approved P-T limits, and the P-T limits for the facilities have been identified as a TLAAs for the LRA.

Request: Clarify whether the exemption on Code Case N-514 remains in effect for the CLB and provide your basis for not identifying this exemption in accordance with 10 CFR 54.21(c)(2).

STPNOC Response

The 10 CFR 50.12 exemption which allows the use of ASME Code Case N-514 remains in effect. The License Renewal Application (LRA) has been revised to identify this exemption in accordance with 10 CFR 54.21(c)(2). See revised LRA Sections 4.1.4 and 4.2.5 included with this Enclosure.

STP LRA changes with line-in/line-out annotations

Note: Section number refers to Section in the License Renewal Application

4.1.4 Identification of Exemptions

10 CFR 54.21(c)(2) requires a list of plant-specific exemptions granted pursuant to 10 CFR 50.12 and in effect that are based on time-limited aging analyses as defined in 10 CFR 54.3. The applicant shall provide an evaluation that justifies the continuation of these exemptions for the period of extended operation.

Docketed correspondence, the operating license, and the UFSAR were searched to identify exemptions in effect. Each exemption in effect was then evaluated to determine whether it involved a TLAA as defined in 10 CFR 54.3.

Seven 10 CFR 50.12 exemptions "currently in effect" for STP were identified. Of those, only ~~one~~ two exemptions, the use of the Leak-Before-Break (LBB) evaluation of reactor coolant system piping for STP Units 1 and 2, and the use of ASME Code Case N-514 to establish the LTOP setpoints for Units 1 and 2 ~~is~~ are based in part on a time-limited aging analysis. The LBB analysis is described in Section 4.3.2.11, *Fatigue Crack Growth Assessments and Fracture Mechanics Stability Analyses for Leak-Before-Break (LBB) Elimination of Dynamic Effects of Primary Loop Piping Failures.* The use of ASME Code Case N-514 is described in Section 4.2.5, *Low Temperature Overpressure Protection.*

4.2.5 Low Temperature Overpressure Protection

Summary Description

Low temperature overpressure protection (LTOP) is required by STP Technical Specification, Limited Condition for Operation (LCO) 3.4.9.3, and is provided by the cold overpressure mitigation system (COMS), which opens the pressurizer power operated relief valves (PORVs) at a setpoint calculated to prevent violation of the pressure-temperature limits. The design basis for LTOP is discussed in UFSAR Section 5.2.2.11.

Since the COMS setpoint is based on the P-T limit curves calculation and in accordance with ASME Code Case N-514, ~~which is a TLAA~~, the calculation of the COMS setpoints and the supporting safety analyses are TLAAs. However, these LTOP analyses do not depend on any other time-dependent values beyond the ART at the critical locations and the P-T limits. Changes to the RCS P-T limit curves also require an evaluation of the LTOP temperature and PORV pressure setpoints, and supporting safety analyses.

Disposition: Aging Management, 10 CFR 54.21(c)(1)(iii)

The COMS setpoints are established in Technical Specification Figure 3.4-4, which will be revised as described in Section 4.2.4. Since any changes to the RCS P-T limit curves also require an evaluation of the LTOP enable temperature setpoint, the PORV pressure setpoint, and supporting safety analyses, the COMS setpoints and analyses will be managed in a manner consistent with the P-T limits. Therefore, these TLAAs are dispositioned in accordance with 10 CFR 54.21(c)(1)(iii).