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

January 22, 2020
NOC-AE-20003702
10 CFR 50.55a(z)
STI: 34969734

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

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Proposed Alternatives to ASME OM Code 2012 Edition for the
Fourth Inservice Test Interval (Relief Request PRR-03)

Pursuant to 10 CFR 50.55a(z), STP Nuclear Operating Company (STPNOC) hereby requests an alternative to the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) 2012 Edition for use during the fourth ten-year Inservice Test (IST) interval at South Texas Project. The details of the request are attached.

STPNOC request approval of the alternatives by September 1, 2020 to support the fourth ten-year interval starting on September 25, 2020.

There are no new commitments in this letter.

If there are any questions regarding this request, please contact N. Boehmisch at 361-972-8172 or me at 361-972-7743.

NOCNOC20034185

Eric for
Roland Dunn
General Manager, Engineering

Attachment: Relief Request PRR-03, Alternative to ISTB-3400-1 Frequency

cc:

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
1600 East Lamar Boulevard
Arlington, TX 76011-4511

Attachment
Relief Request PRR-03, Alternative to ISTB-3400-1 Frequency

1. **ASME Code Component(s) Affected**

2R161(2)NPA1(2)01A, Residual Heat Removal Pump A (Class 2)

2R161(2)NPA1(2)01B, Residual Heat Removal Pump B (Class 2)

2R161(2)NPA1(2)01C, Residual Heat Removal Pump C (Class 2)

Function:

Circulate 3000 gpm of Reactor Coolant System (RCS) flow from the hot legs to the cold legs for the final phase of a reactor cooldown following a small break loss of coolant accident (SBLOCA), steam generator tube rupture (SGTR), main steam line break (MSLB), or feedwater line break (FWLB) accident condition.

2. **Applicable Code Edition and Addenda**

American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) 2012 Edition.

3. **Applicable Code Requirement**

Table ISTB-3400-1 requires a Group A inservice test (IST) to be run on each pump every three months.

4. **Reason for Request**

STPNOC was granted relief to perform the ISTB-3400-1 quarterly test on a six-month frequency in its first three IST intervals and requests to be granted the same relief in the fourth IST interval. Test performance requires containment entry by Operators to run the Residual Heat Removal (RHR) pumps and obtain test data. More frequent performance results in unnecessary radiation dose and equipment wear.

5. **Proposed Alternative and Basis for Use**

A Group A IST will be performed on each RHR pump nominally every six months during normal plant operation. This test frequency will be maintained during plant shutdown periods if it can reasonably be accomplished per the requirements of ISTB-5121. A Comprehensive test per ISTB-5123 may be performed in lieu of a Group A test.

STPNOC has three RHR trains used for long-term cooldown events following safety injection (SI) system operation. The RHR system does not perform the low-head SI function as required at other nuclear plants and is therefore not critical to the immediate accident mitigation function. The initial relief request for a six-month test interval was approved February 17, 1994 (Reference 2), and confirmed that performance of testing on a six-month interval resulted in a negligible change in core damage frequency. Review of this analysis confirmed that the alternative testing frequency for IST requirements will provide an equivalent level of safety for the RHR pumps and system.

The RHR system, including the RHR pumps, continues to be operated as designed with no change in function or performance. The pumps have performed well in the third interval with no unacceptable test results. The risk metrics for the RHR pumps remain consistent with the values used in the original risk analysis.

Since the proposed change in the RHR pump surveillance interval represents a negligible change in core damage frequency, the alternative testing frequency for the IST requirements will provide an equivalent level of safety for these pumps.

Conclusion:

STPNOC proposes to test the RHR pumps by performing a Group A test on a six-month frequency. Given the negligible change in core damage frequency determined in Reference 2, this proposed change provides an acceptable level of quality and safety pursuant to 10 CFR 50.55a(z)(1).

6. Duration of Proposed Alternative

The proposed alternative, if approved, would be implemented from the end of the Third Interval (September 25, 2020) through the end of the Fourth Interval (September 25, 2030).

7. Precedent

NRC Safety Evaluation for South Texas Project License Amendments 59 and 47 and related relief requests. In this Safety Evaluation, the NRC granted relief from the IWP-3400(a) RHR pump testing requirements, allowing a testing frequency extension for these pumps from three to six months (Reference 2).

NRC Safety Evaluation of STP relief requests for the second ten-year interval of the IST program (Reference 3).

NRC approval of STP Relief Request PRR-03 for extension of the third ten-year IST interval for the RHR pumps (Reference 4).

8. References

1. ASME OM-2012, "Operation and Maintenance of Nuclear Power Plants"
2. Letter from S.C. Black, NRC, to W.T. Cottle, Houston Lighting & Power, "Issuance of Amendment Nos. 59 and 47 to Facility Operating License Nos. NPF-76 and NPF-80 and Related Relief Requests – South Texas Project, Units 1 and 2 (TAC Nos. M76048 and M76049)", February 17, 1994, ML02130134
3. Letter from R.A. Gramm, NRC, to J.J. Sheppard, STPNOC, "South Texas Project (STP), Units 1 and 2 - Evaluation of Relief Requests Related to the Second 10-Year Inservice Testing Program (TAC Nos. MB2136 and MB2137)", May 2, 2003, ML031220730
4. Letter from M.T. Markley, NRC, to E.D. Halpin, STPNOC, "South Texas Project, Units 1 and 2 - Relief Request Nos. VRR-01, PRR-01, PRR-02, and PRR-03 for the Third 10-Year Inservice Testing Program Interval (TAC Nos. ME3515, ME3516, ME3517, ME3518, ME3519, ME3520, ME3521, and ME3522)", September 2, 2010, ML102150077