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

December 13, 2010
U7-C-STP-NRC-100262

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

South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Response to Request for Additional Information

Attached is a revised response to the NRC staff question included in Request for Additional Information (RAI) letter number 213 related to Combined License Application (COLA) Part 2, Tier 2, Section 6.6.

The attachment addresses the revised response to the RAI question listed below:

RAI 06.06-4 Revision 1

The COLA changes included in this response will be incorporated in the next routine revision of the COLA following the NRC acceptance of the RAI response.

There are no commitments in this letter.

If you have any questions regarding this response, please contact me at (361) 972-7136, or Bill Mookhoek at (361) 972-7274.

D091
NRO

STI 32796721

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

Executed on 12/13/10

Scott Head
Manager, Regulatory Affairs
South Texas Project Units 3 & 4

jet

Attachment:

RAI 06.06-4 Revision 1

cc: w/o attachment except*
(paper copy)

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RAI 06.06-4 Revision 1:

QUESTION:

The flow accelerated corrosion (FAC) operational program (called "erosion-corrosion" in the DCD) is an augmented inspection program included in preservice inspection and inservice inspection under FSAR Section 6.6.9.1. As part of ensuring the flow accelerated corrosion (FAC) concerns discussed in NRC Generic Letter 89-08 are addressed in the application, please provide the following information about your program:

(1) Describe the program in the application and/or state whether it will follow the EPRI NSAC-202L guidelines;
(2) Identify the implementation schedule and state when and how it will be included in the application;
(3) Confirm that the FAC program will include preservice thickness measurements of susceptible components, and that these preservice measurements will use grid locations and measurement methods most likely to be used for inservice inspection.

Or justify an alternative to address the concerns discussed in NRC Generic Letter 89-08.

REVISED RESPONSE:

This revised response is being submitted to clarify that the Erosion-Corrosion Program will address both single-phase and two-phase erosion-corrosion. The changes from the previous response are made to items 1 and 4 below and in the shaded portions of the COLA markup. This response replaces the previous response in letter number U7-C-STP-NRC-090144, dated 9/15/2009, in its entirety.

1. As noted in DCD Part 2, Tier 2, Subsection 6.6.7.2, the flow accelerated corrosion (FAC) operation program "... examination schedule and examination methods shall be determined in accordance with the NUMARC program (or another equally effective program)...". This statement is revised to indicate that the STP 3&4 FAC program will follow the guidelines of EPRI NSAC-202L.

2. The FAC program for STP 3&4 will be implemented as part of the initial pre-service inspection (PSI) and on-going inservice inspection (ISI) programs. These programs and their schedules are identified in the COLA in Tier 2 Table 13.4S-1. As noted in Tier 2, Section 6.6.9.1 of the FSAR, the PSI and ISI program plans will be submitted to the NRC at least 12 months prior to commercial power operation for the respective unit, based on the final as-built plant configuration. There will be a separate plan for Unit 3 and for Unit 4.

3. In order to provide a baseline for subsequent thickness measurements to determine wear trends on piping and components in support of FAC evaluations, initial thickness measurements of susceptible components will be included as part of the PSI program. The grid locations will be based on the guidelines in Sections 4.5.1, 4.5.2 and 4.5.3 of EPRI NSAC-202L-R3. The measurement methods to be used, including ultrasonic techniques (UT)

and radiography techniques (RT) as appropriate, will be consistent with those used for inservice inspection.

4. The DCD wording in Subsection 6.6.7.2 will be clarified to make it clear that the erosion-corrosion program will address both single-phase and two-phase erosion-corrosion in accordance with the EPRI guidance.

As a result of this response, COLA Subsection 6.6.7.2 and Part 7, Section 3.0, will be changed as shown below. Changes from COLA Rev. 4 are highlighted in gray shading.

6.6.7.2 Erosion-Corrosion

STD DEP 6.6-2

Piping systems determined to be susceptible to ~~single-phase~~ erosion-corrosion shall be subject to a program of nondestructive examinations to verify the system structural integrity. The examination schedule and examination methods shall be determined in accordance with ~~the NUMARC program (or another equally effective program), as discussed in~~ Generic Letter 89-08, the guidelines of EPRI NSAC-202L Rev. 3*, and applicable rules of Section XI of the ASME Boiler and Pressure Vessel Code.*

Part 7 Departures Report, Section 3.0

STD DEP 6.6-2, Erosion-Corrosion Program

Description

ABWR DCD Tier 2 Subsection 6.6.7.2 addresses the ABWR erosion-corrosion program. This program was based on the NUMARC program that was the industry standard at the time of certification. Since then, the industry has largely adopted the EPRI program described in NSAC-202L Rev. 3. The DCD wording is revised to reference the EPRI program and also to clarify that this program applies to both single-phase and two-phase flows as discussed in the EPRI document.

Evaluation Summary

This departure has been evaluated in accordance with the requirements of 10 CFR 52 Appendix A, Section VIII.B.5. The departure has no impact on ABWR DCD Tier 1, Tier 2*, Technical Specifications or Technical Specifications Bases sections. The proposed change adopts the latest industry guidance for erosion-corrosion that is described in EPRI-NSAC-202L Rev. 3, "Recommendations for an Effective Flow-Accelerated Corrosion Program." This guidance reflects industry operating experience and research since certification, provides for enhanced methods for predicting, monitoring and detection of erosion-corrosion, and is therefore an improvement over the NUMARC program. This program is used on STP Units 1 and 2. The DCD wording is also changed to clarify that this program applies to both single-phase and two-phase flow as described in the EPRI guidance. Accordingly this departure results in less

likelihood of a malfunction of any SSC important to safety. It also has no impact on the frequency of occurrence or consequences of an accident or ex-vessel severe accident previously evaluated. There is no impact on design basis limits to fission product barriers. Thus, this departure meets the requirements outlined in 10 CFR 52, Appendix A Section VIIIB. 5, and prior NRC review is not required.