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

May 13, 2009
U7-C-STP-NRC-090044

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 response to an NRC staff question included in Request for Additional Information (RAI) letter number 100 related to Combined License Application (COLA) Part 2, Tier 2, Appendix 6D.

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

RAI 06.03-1

There are no commitments in this letter.

If you have any questions regarding this response, please contact me at (361) 972-7206, or Bill Mookhoek at (361) 972-7274.

D091
NRO

STI 32469877

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

Executed on MAY 13, 2009

Mark A. McBurnett
Vice President, Oversight and Regulatory Affairs
South Texas Project Units 3 & 4

jet

Attachment:

Question 06.03-1

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

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RAI 06.03-1:

QUESTION:

Appendix 6D in Tier 2 of the ABWR DCD provides an analysis to support ITAAC Item 3d, High Pressure Core Flooder Pump Test, in Table 2.4.2 of ABWR DCD, Tier 1. In STP COLA Rev. 2, STP submitted a revision to the equation for P_{727} in Section 6D.2.4 to change the value of "70.68" to "0.69". The NRC staff requests that STP clarify the basis for the change, including its applicability to ABWR DCD Tier 2, Figure 6D-1, "Injection Flow," and Tables 6.3-1 and 8.

RESPONSE:

The change from "70.68" to "0.69" in the equation for P_{727} in Section 6D.2.4 of Rev 2 of the Combined License Application (COLA) was an administrative departure that corrects a typographical error in the DCD. As shown in Figure 6D-1 of Tier 2 of the COLA, the pressure head across the pump for low pressure flow, which is P_{727}, consists of four components: (1) the hydraulic head loss for the flooder line H_{727} which is a function of the square of the flow rate, (2) the static head H_s which is equal to the difference in fluid elevation between the Reactor Pressure Vessel (RPV) water level and suppression pool water level, (3) the differential or gauge pressure between the reactor vessel and suppression pool air space and (4) the prescribed margin. The third term in the equation for P_{727} is the reactor vessel differential pressure component. As shown in Tier 1 Section 2.4.2, Tier 1 Table 2.4.2 Item 3d, Tier 2 Subsection 6.2.1.1.3.3.1.1(6), Tier 2 Table 6.3-1, Tier 2 Table 6.3-8, and Tier 2 Figure 6D-1; the High Pressure Core Flooder (HPCF) flow rate is specified to be 727 m^3/h at a differential pressure of 0.69 MPa. (Note: Table 6.3-8 specifies this flow at 0.79 MPa absolute pressure in the reactor vessel which is equivalent to a differential or gauge pressure of 0.69 MPa). Based on these specified conditions, the correct value for the third term in the equation is "0.69 MPa" and not "70.68 MPa". This would then make the equation consistent with Tier 1 Section 2.4.2, Tier 1 Table 2.4.2 Item 3d, Tier 2 Subsection 6.2.1.1.3.3.1.1(6), Tier 2 Table 6.3-1, Tier 2 Table 6.3-8, and Tier 2 Figure 6D-1.

This change corrects the equation to make it consistent with the specified flow and pressure drop at six locations in the DCD. No further COLA change is required.