May 19, 2008

Mr. Gregory Gibson, Manager
Regulatory Affairs
STP Nuclear Operating Company
P. O. Box 289
Wadsworth, TX 77483

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 51 RELATED TO THE SRP SECTION 02.05.03 FOR THE SOUTH TEXAS COMBINED LICENSE APPLICATION

Dear Mr. Gibson:

By letter dated September 20, 2007, STP Nuclear Operating Company (STPNOC) submitted for approval a combined license application pursuant to 10 CFR Part 52. The U. S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within 45 days of the date of this letter. If changes are needed to the safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, I can be reached at 301-415-1494 or by e-mail at George.Wunder@nrc.gov.

Sincerely,

/RA/

George F. Wunder, Senior Project Manager
ESBWR/ABWR Projects Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket Nos.: 52-012
52-013

eRAI Tracking No. 213

Enclosure:
Request for Additional Information

cc: William Mookhoek

If you have any questions or comments concerning this matter, I can be reached at 301-415-1494 or by e-mail at George.Wunder@nrc.gov.

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cc: William Mookhoek

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NAME	YLi	RKaras	JBiggins	GWunder
DATE	04/28/08	05/13/08	05/15/08	05/19/08

***Approval captured electronically in the electronic RAI system.**

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Request for Additional Information
South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co.
Docket Nos. 52-012 and 52-013
SRP Section: 02.05.03 - Surface Faulting
Application Section: 2.5.3

QUESTIONS

02.05.03-1

Section 2.5S.3.1.1 under "Analysis of Seismic Reflection Data," states that all but two faults in the site area die out in Miocene or older strata, "and thus have not been active since Miocene time." However, such data show only that no displacement large enough to be imaged is present in Miocene and younger strata. Please explain how the seismic reflection data rule out displacements smaller than that of the resolution of the data, but large enough to cause damaging earthquakes.

02.05.03-2

In the last 15 years, there is wider recognition that seismicity migrates within crustal zones over periods of thousands to tens of thousands of years (e.g., Nelson et. al., 1999; Schweig and Ellis, 1994; Coppersmith, 1988; Tuttle et. al., 2006). Please explain how this might apply to the site region. References: "Quaternary grabens in southernmost Illinois — Deformation near an active intraplate seismic zone," Tectonophysics, Volume 305, Pages 381-397, Nelson, W.J., Denny, F.B., Follmer, L.R., and Masters, J.M., 1999. "Temporal and Spatial Clustering of Earthquake Activity in the Central and Eastern United States," Seismological Research Letters, Volume 59, Pages 299-304, Coppersmith, K.J., 1999. "Reconciling Short Recurrence Intervals with Minor Deformation in the New Madrid Seismic Zone," Science, Volume 264, Pages 1308-1311, Schweig, E.S., and Ellis, M.A.,1994. "Very Large Earthquakes Centered Southwest of the New Madrid Seismic Zone 5,000-7,000 Years Ago," Seismological Research Letters, Volume 77, Pages 755-770, Tuttle, M. P., Al-Shukri, H., Mahdi, H., 2006.

02.05.03-3

A significant portion of the Site Region for the STP COLA site is covered by the Gulf of Mexico. Please discuss seismic potential in this specific area due to concealed capable faults under the water.

02.05.03-4

Section 2.5S.3 contains numerous references referring back to Section 2.5S.1 that are incorrect. Please review and correct these references.