

June 18, 2009

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

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 127 RELATED TO SRP  
SECTION 02.05.01 FOR THE SOUTH TEXAS PROJECT COMBINED LICENSE  
APPLICATION

Dear Mr. Head

By letter dated September 20, 2007, STP Nuclear Operating Company (STP) 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 **30** 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.

S. Head

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If you have any questions or comments concerning this matter, I can be reached at 301-415-6197 or by e-mail at [Tekia.Govan@nrc.gov](mailto:Tekia.Govan@nrc.gov) or you may contact George Wunder at 301-415-1494 or [George.Wunder@nrc.gov](mailto:George.Wunder@nrc.gov).

Sincerely,

**/RA/**

Tekia V. Govan, Project Manager  
ABWR Projects Branch  
Division of New Reactor Licensing  
Office of New Reactors

Docket Nos.: 52-012  
52-013  
eRAI Tracking No. 2443

Enclosure:  
Request for Additional Information

cc: William Mookhoek  
Richard Bense

S. Head

-2-

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NRO-002

OFFICE	CIB2/TR	CIB2/BC	NGE2/PM	OGC	NGE2/L-PM
NAME	LBauer	CMunson	TGovan	SBrock	GWunder
DATE	04/10/2009	04/17/2009	06/18/2009	04/27/2009	04/28/2009

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

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**Request for Additional Information No. 2443 Revision 2**

**South Texas Project Units 3 and 4  
South Texas Project Nuclear Operating Co  
Docket No. 52-012 and 52-013  
SRP Section: 02.05.01 - Basic Geologic and Seismic Information  
Application Section: 2.5S.1**

QUESTIONS for Geosciences and Geotechnical Engineering Branch 2 (RGS2)

**02.05.01-18**

In response to RAI 2.5.1-15, you described paleoseismic investigations of over 15 miles along the Colorado River within the STP site vicinity. Please provide information on the level of detail for these investigations, for instance (1) what were the site conditions, (2) what was the quality of the cutbank exposures, (3) were the sedimentary conditions appropriate for liquefaction to occur. Did you investigate smaller streams and tributaries along the Colorado River? Please provide the information that is specific to the paleoseismic portion of the field investigation.

**02.05.01-19**

FSAR Section 2.5S.1.2.4.3, states in the "Summary" subsection that fault GMP (FSAR Reference 2.5S.1-124) extends beneath the cooling reservoir and is the closest growth fault to STP Units 3 and 4, with a surface projection approximately 1.4 miles from Units 3 and 4. Since this is the closest growth fault feature to the STP site, and due to the fact that it was not previously characterized in the FSAR for Units 1 and 2, please describe this fault more thoroughly, including whether any additional investigations were performed, and if so what the results were. If additional investigations were not performed, please explain why, given the proximity of the fault to the site.

**02.05.01-20**

In response to RAIs 2.5.1-13 and 2.5.1-14, you stated that the growth fault STP12I/GMO does not trend eastward into the cooling reservoir and this information appears to be based largely on results from topographic profile STP L4. In addition, you investigated the area south of the reservoir for associated features. In revised FSAR Figure 2.5S.1-45, provided in response to RAI 2.5.1-13, there are features (within the cooling reservoir) that represent slope breaks and vegetation lineaments along a northeast trend and along strike with growth fault GMO/STP12I (as it is projected west of the cooling reservoir). These features appear to be continuous toward the center of the cooling reservoir. FSAR Section 2.5S.1.2.4.2.2.1 states that potential uncertainty associated with projecting growth fault locations may vary as much as several miles as well as along strike and "between different faults". In light of this, the slope breaks and linear vegetation features shown on revised FSAR Figure 2.5S.1-45 may represent a northeast extension of growth fault GMO/STP12I at the surface, placing the fault within the cooling reservoir and closer to STP Units 3 and 4. Please discuss these linear features.

Enclosure

## 02.05.01-21

FSAR Sections 2.5S.1.1.4.4.5.4, 2.5S.1.2.4.2, 2.5S.1.2.4.3, and 2.5S.3.2.2 provide evaluations of growth faults and the potential for Quaternary growth faulting in the STP site vicinity. This data is based on investigations performed for STP Units 1 and 2 and more recently for STP Units 3 and 4. In order for the staff to perform an adequate evaluation of the potential for growth faulting within the 5-mile STP radius, and specifically within the 0.6-mile site radius, please provide the following:

- a.) FSAR figure 2.5S.1-44 suggests that it represents lineament data in addition to aerial reconnaissance and ground reconnaissance tracks. Please revise FSAR Figure 2.5S.1-43, 44, and 45 to include lineament data that is described in the "Explanation", or legend, so that the staff can adequately evaluate the extent of the growth fault investigations within the site area, or within the 5-mile site radius. In addition, please identify which linear features were identified in the investigations for STP Units 1 and 2 and which features were identified in the investigations for Units 3 and 4.
- b.) In FSAR Section 2.5S.3, only two growth faults were interpreted to approach within 5,000 ft of the ground surface and these two faults were mapped to within 800 ft and 1000 ft of the surface, respectively. However, in FSAR Section 2.5S.1 for Units 3 and 4, and in the UFSAR for STP Units 1 and 2, three faults were described that approach within 5,000 ft of the surface (faults A, I, and J) and one of those faults, growth fault A, was interpreted from reflection data to approach the limit of resolution, approximately 500 meters below the surface. Please resolve this information in the FSAR.
- c.) Please describe the resolution limits associated with the data used to interpret growth faulting, or lack of growth faulting within the upper 1000 meters, or within Quaternary units in the site area.