

August 31, 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. 221 RELATED TO
SRP SECTION 06.04 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.

If you have any questions or comments concerning this matter, I can be reached at 301-415-2849 or by e-mail at Stacy.Joseph@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

Sincerely,

/RA/

Stacy Joseph, 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 3321

Enclosures:
Request for Additional Information

cc: William Mookhoek
James Tomkins

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DATE	7/16/2009	7/20/2009	7/21/2009	8/17/2009	8/31/2009

***Approval captured electronically in the electronic RAI system.
OFFICIAL RECORD COPY**

Request for Additional Information No. 3321 Revision 2

**South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 06.04 - Control Room Habitability System
Application Section: 6.4 Habitability Systems**

QUESTIONS for Containment and Ventilation Branch 2 (ESBWR/ABWR Projects) (SBCV)

06.04-1

The staff has the following questions related to the information provided by the applicant for COL License Information Item 6.8:

- 1) NRC Staff's confirmatory analysis of the STP 3&4 control room habitability showed that among the hazardous chemicals listed in Tables 2.2S of the FSAR; Acetic Acid (Water Transport), Gasoline (Water Transport), Sodium Hypochlorite (Onsite Storage), 1-Hexene (Offsite Storage), and Acetic Acid (Offsite Storage) posed toxic gas threat to the control room habitability. The NRC staff's computer simulations showed that an accidental release of these hazardous chemicals into the atmosphere could lead to the gas concentration exceeding the Immediately Dangerous to Life and Health (IDLH) level inside the control room (CR) after the resulting gas cloud reaches the CR intake. Provide details of the toxic gas evaluation (computer code inputs, results) to demonstrate that these chemical sources are not a threat to the STP 3&4 control room habitability.
- 2) Sodium Hypochlorite and Gasoline are not available in ALOHA computer code's chemicals database. How were they analyzed? Provide any additional physical properties of the chemicals specified outside the database.
- 3) Why is the IDLH of Sodium Hypochlorite provided as "10 ppm" of Chlorine in the FSAR? What is the physical process that would lead to the accumulation of chlorine inside the control room due to release of Sodium Hypochlorite in the atmosphere?

Enclosure