May 18, 2010

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

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 345 RELATED TO SRP SECTION 03.04.02 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 301-415-8484 or by e-mail at Tom.Tai@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

Sincerely,

/RA/

Tom M. Tai, Senior Project Manager
ABWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-012
52-013

eRAI Tracking No. 4058 and 4091

Enclosure:
Request for Additional Information

cc: William Mookhoek
John Price

If you have any questions or comments concerning this matter, I can be reached at 301-415-8484 or by e-mail at Tom.Tai@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

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Request for Additional Information

cc: William Mookhoek
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***Approval captured electronically in the electronic RAI system.**

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Request for Additional Information No. 4058 Revision 3

5/17/2010

South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 03.04.02 - Analysis Procedures
Application Section: FSAR Chapter 3.4.2

QUESTIONS for Structural Engineering Branch 2 (ESBWR/ABWR Projects) (SEB2)

03.04.02-6

In its evaluation of **RAI 03.04.02-2 (ID 3322 Question 13162)**, the staff accepts in general the applicant's physical description of watertight door locations and the proposed measures and procedures to accomplish water tightness of any below DBFL openings and penetrations of seismic category I, in-and out-of-scope SSC, as reflected in the proposed revision to COLA FSAR. The staff considers that since watertight doors are seismic category I SSC, each exterior door under DBFL located in any category I structure should be given a unique component ID, a set of specific design parameters, other conditions (e.g., controls measures) and be keyed into the corresponding plans to show each door's location. Such information should be reflected in the ITAAC tables conveying the design requirements, the proposed inspections, tests, analyses and the acceptance criteria including the need for as-built reconciliation which is required for category I SSC. All certified and plant-specific category I SSC should be considered, including the underground diesel tanks and vaults if applicable. Compliance with RG1.102 Flood Protection for Nuclear Power Plants should also be indicated for the underground diesel tank access openings if applicable. The staff needs this information to be able to conclude that the seismic category I doors are designed and installed to withstand the design basis flood during an accident.

03.04.02-7

In its response to **RAI 03.04.02-3 (RAI 3322, Question 13163)**, the applicant provided a revised ITAAC table for the RSW system. No revised ITAAC for the UHS is required as no openings or penetrations are located below DFBL, per response to RAI 03.04.02-2. The new item 9 of the revised ITAAC table lacks the necessary detail and needs to refer to "below DBFL" instead of "below ground level," and should be augmented with acceptance criteria including a statement that "the penetration seals are reliable and emergency procedures are in place to guide the plant response to a postulated seal failure followed by flooding." This information needs to be included in the table to ensure that the whole UHS system, including the RSW system, is designed and installed to withstand the design basis flood during an accident.

03.04.02-8

In its response to **RAI 3.4.2-4 (RAI 3322, Question 13165)**, the applicant has confirmed that non-seismic category I SSC will be designed against collapse when exposed to a DBF. Since the acceptance criteria in SRP (3.7.2.II.8) and the ABWR DC FSER, NUREG 1503 (Section 3.7.2) allow for design against collapse of interacting SSC, the applicant should provide design procedures for SSC with interaction potential, to resist the site-specific external events including design basis floods. Such procedures should include the corresponding ITAAC, the load parameters, load combinations, design

acceptance criteria and the safety margins against failure that are equivalent to that of seismic category I SSC. The staff needs this information to conclude that there will be no adverse II/I interactions associated with the design basis flood.

Request for Additional Information No. 4091 Revision 3

5/17/2010

South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 03.04.02 - Analysis Procedures
Application Section: FSAR 3.4.2

QUESTIONS for Structural Engineering Branch 2 (ESBWR/ABWR Projects) (SEB2)

03.04.02-9

In its response to **RAI 03.04.02-1 (RAI 3322 Question 13161)**, the applicant stated that the hydrodynamic effects of above ground flooding have been evaluated following the provisions in ASCE 7-05 and referred to responses to four other RAIs (RAI 03.08.01-4, RAI 03.04.02-2, RAI 03.04.02-4, and RAI 03.04.02-5) for the resolution of RAI 03.04.02-1. The applicant is requested to compare and justify the dynamic load effects of wave action generated by the applicant with those generated based on the provisions of the reference given in SRP Section 3.4.2.II (3) and to track the closure status of the above noted four RAIs.