December 30, 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. 005 RELATED TO SRP SECTION 19 FOR THE ABWR DESIGN CERTIFICATION RULE AMENDMENT APPLICATION

Dear Mr. Head

By letter dated June 20, 2009, STP Nuclear Operating Company (STPNOC) submitted for approval an application to amend the ABWR design certification rule (DCR) 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.

Sincerely,

/RA/

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

Docket Nos. 52-001

eRAI Tracking No. 4172

Enclosures:
Request for Additional Information

cc: William Mookhoek
Fred Puleo

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.

Sincerely,

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

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Request for Additional Information No. 4172 Revision 5

ABWR Design Certification Amendment Project
South Texas Project Nuclear Operating Co
Docket No. 52-001
SRP Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation
Application Section: 19S

QUESTIONS for Fire Protection Team (SFPT)

19-8

In DCD Section 19S.1, the applicant's introduction states that "*The specific assumptions regarding the aircraft impact were based on guidance provided by the NRC and Nuclear Energy Institute (NEI 07-13 Rev. 7)…*" The staff inferred from this statement that the assessment was conducted following only certain portions of the NEI 07-13 guidance. The applicant is requested to clarify within the DCD whether NEI 07-13 Rev. 7 was fully followed for the entire assessment or whether there were any exceptions taken. If exceptions were taken, please identify them.

19-9

In DCD Section 19S.2, the applicant states that the spent fuel pool is not perforated. However, the applicant made no statements to conclude that there would be no leakage from the spent fuel pool liner to allow drain down below the required minimum water level. The applicant is requested to identify whether, accounting for the amended design, any AIA scenarios result in leakage from the spent fuel pool liner to allow drain down below the required minimum water level. Please provide information to address this issues in DCD Section 19S.

19-10

In DCD Section 19S4.2(4), the applicant states that the spent fuel pool design, as described in Tier 2 Section 9.1, is an AIA key design feature. The applicant is requested to describe in the DCD Section 19S how the specific location of the SFP protects it. Also, the applicant is requested to describe in the DCD Section 19S specifically how the design features (e.g. walls, location of piping) of the SFP protect the integrity of the pool and prevent perforation below the required minimum water level.

19-11

In DCD Section 19S4.2(5), the applicant states, "*the physical separation of the Class 1E emergency diesel generators and an independent power supply as described in Tier 2 Section 9.5.14 is a key design feature that prevents the loss of all electrical power to core cooling systems*." The applicant is requested to provide the following:

1. clarify if this physical separation is between the Class 1E diesels and the AFI power supply or between the multiple Class 1E emergency diesels or other;

2. provide a more detail description of the physical separation to include the extent of the separation such as distance, barriers, standards referenced, etc.;

3. based on this physical separation, provide addition details to confirm that for the impact scenarios where an electrical source for the AFI system is required, at least one of these electrical sources will survive those scenarios;

4. confirm if the AFI pump and MOVs can be powered via the emergency power supply.

19-12

In DCD Section 19S4.3, the applicant states the use of fire doors and watertight doors within the R/B and C/B as key design features to protect core cooling equipment. However, the door description does not specify the pressure capability (e.g., 5 psid). The applicant is requested to provide this description detail within the DCD.

19-13

In the STP presentation to the staff on October 14, 2009, STP described the installation of new floor plug(s) in the reactor building to separate the refueling deck from the grade-level truck bay. However, the applicant has not identified this key design feature within DCD Section 19S. If such floor plugs will be credited to satisfy 10 CFR 50.150 then the applicant must identify the floor plug(s) as a key design feature within DCD Section 19S. In addition, has the applicant considered the floor-ceiling assembly(s) that will contain any of these credited floor plug(s) as a 3-hour fire barrier(s)? Such consideration should include meeting the fire barrier requirements of DCD Section 9.5.1 and Appendix 9A.