July 23, 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. 161 RELATED TO SRP SECTION 19 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 301-415-3104 or by e-mail at Michael.Eudy@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

Sincerely,

/RA/

Michael Eudy, Senior Project Manager
ABWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-012
52-013

eRAI Tracking Nos. 3103 and 3107

Enclosure:
Request for Additional Information

cc: William Mookhoek
Bill Stillwell

If you have any questions or comments concerning this matter, I can be reached at 301-415-3104 or by e-mail at Michael.Eudy@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

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Michael Eudy, Project Manager
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Docket Nos. 52-012
52-013

eRAI Tracking No. 3103 and 3107

Enclosure:
Request for Additional Information

cc: William Mookhoek
Bill Stillwell

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

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Request for Additional Information No. 3103 Revision 2

7/23/2009

South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation
Application Section: 19.1

QUESTIONS for PRA Licensing, Operations Support and Maintenance Branch 2 (ESBWR/ABWR Projects) (SPLB)

19-20

In accordance with 10CFR Part 52, a COL application is required to contain a description of the plant-specific PRA and its results. In addition, if the COL application references a design certification, then the plant-specific PRA information should be updated to account for site-specific design information and any design changes or departures. The staff reviewed the shutdown hurricane risk discussion outlined in Section 19.Q.6 of the STP FSAR. The Abnormal Procedure for STP Units 1 & 2 which covers hurricanes, requires a plant shutdown prior to the arrival on site of hurricane winds in excess of 73 miles per hour. The applicant stated that the tornado analysis provided in the reference ABWR DCD would bound the hurricane analysis with respect to high winds. There is no site-specific analysis to support this assumption. The staff is requesting the applicant to provide the following information, as applicable, associated with the site-specific high winds shutdown risk assessment that considers the shared fire water system:

a. High Winds Shutdown CDF and LERF.
b. Top 100 cutsets for CDF and LERF.
c. Description of the significant core damage sequences and large release sequences.
d. Risk-importance measures Fussel-Vessel (FV) and Risk Achievement Worth (RAW) for component basic events.
e. Risk-importance measures (FV and RAW) for HEPs (human error probabilities).
f. Risk-importance measures (FV and RAW) for CCFs (common cause failures).
g. List of SSCs that were identified as risk significant for input into the RAP program.
h. Description of the methodology used to identify risk significant SSCs for input into the RAP program.

19-21

In accordance with 10CFR Part 52, a COL applicant is required to contain a description of the plant-specific PRA and its results. In addition, if the COL application references a design certification then the plant-specific PRA information should use the PRA information for the design certification and be updated to account for site-specific design information. The staff reviewed the internal and external shutdown flood risk discussion in Section 19.Q.6 of the STP FSAR. The applicant stated that the risk during shutdown from internal and external floods is very small. Although site specific internal and external full power flooding sequences were evaluated in Section 19.R of the STP FSAR, there is no risk analysis or estimation of the

site-specific shutdown frequency of internal and external floods. The staff is requesting the applicant to provide the following information, as applicable, associated with the site-specific shutdown risk assessment of internal and external flooding events:

a. Total CDF and LRF.

b. Top 100 cutsets for CDF and LRF.

c. Desciption of the significant core damage sequences and large release sequences.

d. Risk-importance measures including Fussel-Vessel (FV) and Risk Achievement Worth (RAW) for component basic events.

e. Risk-importnace measures (FV and RAW) for HEPs (Human Error Probabilities).

f. Risk-importance measures (FV and RAW) for CCFs (Common Cause Failures)

g. List of SSCs that were identified as risk significant SSCs for input into the RAP program.

h. Description of the methodology used to identify risk significant SSCs for input into the RAP program.

Request for Additional Information No. 3107 Revision 2

7/23/2009

South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation
Application Section: 19.0 PRA

QUESTIONS for PRA Licensing, Operations Support and Maintenance Branch 2 (ESBWR/ABWR Projects) (SPLB)

19-19

In Section 19.2, Table 19.2-2 of the STP FSAR, Rev. 2, "PRA Assessment of STP COLA Departures from ABWR DCD", Departure STP DEP 9.2-5 (Reactor Service Water [RSW] system), it is stated that only the portion of the RSW in the CB was described in the ABWR DCD, remaining portion is not contained in the ABWR DCD. STP provided the plant specific description of RSW in FSAR Section 9.2.15. The potential impact of this departure on PRA was stated in 19.3 (Internal Event), 19.4 (External Event and Shutdown Risk), 19.11 (Human Action), 19Q (Shutdown Risk) and 19R (Probabilistic Flooding Analysis). However, there was no discussion of the potential impact of this system on the fire risk in Section 19M. Please explain if this system is included in the fire risk assessment, and if so, please discuss their impact on the fire risk.