

April 1, 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. 331 RELATED TO  
SRP SECTIONS 10.04.03 AND 10.04.07 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

-2-

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](mailto:Tom.Tai@nrc.gov) or you may contact George Wunder at 301-415-1494 or [George.Wunder@nrc.gov](mailto: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. 4102 and 4440

Enclosure:  
Request for Additional Information

cc: William Mookhoek  
James Agles

S. Head

-2-

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](mailto:Tom.Tai@nrc.gov) or you may contact George Wunder at 301-415-1494 or [George.Wunder@nrc.gov](mailto: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. 4102 and 4440

Enclosure:  
Request for Additional Information

cc: William Mookhoek  
James Agles

Distribution:  
PUBLIC  
NGE 1/2 R/F  
GWunder, NRO  
BAbeywickrama, NRO  
DReddy, NRO  
AStubbs, NRO  
JSegala, NRO  
SKirkwood, OGC  
RidsNroDsraSbpa  
RidsNroDnrINge2

ADAMS Accession No. ML100910197

NRO-002

OFFICE	SBPA/TR	SBPA/BC	NGE2/PM	NGE2/L-PM
NAME	DReddy/AStubbs	JSegala	TTai	GWunder
DATE	3/2/2010	3/8/2010	3/8/2010	3/10/2010

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

**OFFICIAL RECORD COPY**

Request for Additional Information No. 4102 Revision 3

South Texas Project Units 3 and 4  
South Texas Project Nuclear Operating Co  
Docket No. 52-012 and 52-013  
SRP Section: 10.04.03 - Turbine Gland Sealing System  
Application Section: 10.4.3

QUESTIONS for Balance of Plant Branch 1 (AP1000/EPR Projects) (SBPA)

**10.04.03-4 (Question 15829)**

**Supplement to RAI 117 (10.04.03-3)**

This question applies to STD DEP 10.4-1:

In response to **RAI 10.04.03-3 (eRAI 117)**, the applicant submitted a letter dated May 20, 2008 (ML081440107), and provided a markup of Figure 10.4-2 and additional information. The applicant stated that some of the changes made in the COL application were due to the revised Toshiba design of the Turbine Gland Seal System (TGSS). The staff evaluated the applicant's responses and concluded that the applicant has provided adequate clarifications for most of items raised in the RAI. However for the following three items, the staff determined that the applicant should provide additional information:

- (1) Item 1 (loop seal) - The applicant stated that the loop seal between the turbine building ventilation exhaust and the condensate drain tank has been deleted in the Toshiba design. Instead, the blower drain line is connected to the U-seal at the bottom of the gland steam condenser. The applicant provided a markup of the Figure 10.4-2 in this regard. The staff's review found that the applicant's response did not explain how this modification to the certified design would not impact the TGSS. Therefore, the applicant is requested to provide additional information and clarify how this modification will not adversely impact the TGSS.
- (2) Item 2 (pressure switch) - The applicant stated that the pressure switch between the exhaust blowers and the condensate storage and transfer line is not needed in the Toshiba design. In the certified design, the standby blower starts on a pressure signal. In the Toshiba design, the standby blower is started manually. Because the unit relies on an operational blower to maintain a vacuum, the applicant is requested to explain why this modification in the TGSS design does not adversely affect the gland steam condenser and prevent it from performing its intended function.
- (3) Item 6 (check valve deletion) - The applicant stated that the valve depiction in COL application Revision 1 is incorrect, and it will be revised as shown in the markup of Figure 10.4-2. The auxiliary steam valve sequence was altered in STP COL FSAR Revision 1 compared to ABWR DCD Revision 0. The valve configuration in the revised Figure 10.4-2 deleted a check valve between the motor-driven and regulating valves. The check valves, in general, prevent backflow in the system. Therefore, the applicant is requested to justify the deletion of this check valve.

Enclosure

Request for Additional Information No. 4440 Revision 3

South Texas Project Units 3 and 4  
South Texas Project Nuclear Operating Co  
Docket No. 52-012 and 52-013  
SRP Section: 10.04.07 - Condensate and Feedwater System  
Application Section: 10.4.7

QUESTIONS for Balance of Plant Branch 1 (AP1000/EPR Projects) (SBPA)

10.04.07-3 (Question 16892)

10 CFR 52 requires that applicants submit ITAAC that are necessary and sufficient to provide a reasonable assurance that the facility has been constructed and will operate as designed (§ 52.80(a)). It is also stated in section 52.80(a)(2), that "if the applicant reference a standard design certification, the ITAAC contained in the certified design must apply to those portions of the facility design which are approved in the design certification."

The staff previously issued RAI 10.04.07-1 (Question 359) requesting STP to provide justification as to why the information in Tier 1, Section 2.10.2 regarding the Condensate and Feedwater System (CFS) description and ITAAC was not updated to reflect design changes to the system as a result of departure STP DEP 10.4-5. In it's response the applicant indicated that "the CFS alters the specific design, but does not modify the functional arrangement," and that "detailed design drawings, which will expand the basic configuration to include the condensate booster pumps along with other refinements perform these inspections." The staff found this response unacceptable since the Tier 1 design in the DCD is not consistent with the STP CFS design, and since the Tier 1 CFS information incorporated by reference is no longer reflective of the STP design.

The STP application incorporates by reference the design description, functional arrangement, and ITAAC for the CFS standard design included in ABWR DCD Tier 1, Section 2.10.2. In the STP COLA, the applicant departs from the standard design, and incorporates into the CFS additional significant SSC's. Because the COL design differs significantly from the design certified in the DCD, the ABWR ITAAC in the DCD, which confirms the certified design, is not applicable to the STP design. Provide an update to the referenced CFS design (design description and/or functional arrangement) in Tier 1, Section 2.10.2, so that the referenced ITAAC in Tier 1 Table 2.10.2a is applicable to the CFS design being licensed in the STP COLA.