

## PMSTPCOL PEmails

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**From:** Tai, Tom  
**Sent:** Thursday, April 01, 2010 3:08 PM  
**To:** Agles, James  
**Cc:** Mookhoek, William; Chappell, Coley; STPCOL; Tai, Tom  
**Subject:** STP - Adv Copy of Letter 328, 329, and 331  
**Attachments:** LTR 328 ML1009101800.pdf; LTR 329 ML1009101900.pdf; LTR 331 ML1009101970.pdf

Jim,

Attached for your use are advanced copies of RAIs issued under Letters 328, 329, and 331.

They are:

Letter 328      RAI 4544 (Chapter 9.4.5)  
Letter 329      RAI 4561 (Chapter 9.1.1)  
Letter 331      RAI 4102 (Chapter 10.4.3) and RAI 4440 (Chapter 10.4.7)

Please call if you have questions.

Regards

Tom Tai  
DNRL/NRO  
(301) 415-8484  
[Tom.Tai@NRC.GOV](mailto:Tom.Tai@NRC.GOV)

**Hearing Identifier:** SouthTexas34Public\_EX  
**Email Number:** 2058

**Mail Envelope Properties** (0A64B42AAA8FD4418CE1EB5240A6FED111659913C0)

**Subject:** STP - Adv Copy of Letter 328, 329, and 331  
**Sent Date:** 4/1/2010 3:08:20 PM  
**Received Date:** 4/1/2010 3:08:23 PM  
**From:** Tai, Tom

**Created By:** Tom.Tai@nrc.gov

**Recipients:**

"Mookhoek, William" <wemookhoek@STPEGS.COM>  
Tracking Status: None  
"Chappell, Coley" <ccchappell@STPEGS.COM>  
Tracking Status: None  
"STPCOL" <STP.COL@nrc.gov>  
Tracking Status: None  
"Tai, Tom" <Tom.Tai@nrc.gov>  
Tracking Status: None  
"Agles, James" <jaagles@STPEGS.COM>  
Tracking Status: None

**Post Office:** HQCLSTR02.nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	425	4/1/2010 3:08:23 PM
LTR 328 ML1009101800.pdf		81963
LTR 329 ML1009101900.pdf		80750
LTR 331 ML1009101970.pdf		106113

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

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. 328 RELATED TO  
SRP SECTIONS 9.4.5 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) you may contact George Wunder at 301-415-1494 or [George.Wunder@nrc.gov](mailto:George.Wunder@nrc.gov).

Sincerely,

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. 4544

Enclosure:  
Request for Additional Information

cc: Mr. William Mookhoek  
Mr. 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) 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. 4544

Enclosure:  
Request for Additional Information

cc: Mr. William Mookhoek  
Mr. James Agles

Distribution:  
PUBLIC  
NGE 1/2 R/F  
GWunder, NRO  
BAbeywickrama, NRO  
SHaider, NRO  
JMckirgan, NRO  
RidsNroDsraSbcv  
RidsNroDnrINge2

ADAMS Accession No. ML100910180

NRO-002

OFFICE	SBVC	SBCV	NGE2/PM	NGE2/L-PM
NAME	SHaider	JMckirgan	TTai	GWunder
DATE	03/19/2010	03/20/2010	03/22/2010	03/29/2010

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

**OFFICIAL RECORD COPY**

Request for Additional Information No. 4544 Revision 3

3/29/2010

South Texas Project Units 3 and 4  
South Texas Project Nuclear Operating Co  
Docket No. 52-012 and 52-013  
SRP Section: 09.04.05 - Engineered Safety Feature Ventilation System  
Application Section: 9.4.5 Reactor Building HVAC System

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

**09.04.05-1**

**Diesel Generator (DG) Room's Habitability:**

The proposed departure STP DEP T1 2.15-2 RBSRDG HVAC revises DCD Tier 1 Subsection 2.15.5, and increases the maximum air temperature limit inside the Reactor Building Safety-Related Diesel Generator (DG) engine room during the DG operation, from 50°C (122°F) to 60°C (140°F). Please address the following:

1. Identify any safety-related equipment/instrumentation and cables located in the DG room, and document in the FSAR that they are qualified to reliably operate at the increased 140°F temperature environment;
2. Describe, if any, safety functions in the DG room that are required to be performed by the operator(s);
3. Provide assurance in the FSAR that the Diesel Generator room would be habitable enough to allow the operator's safe entry and access inside the 140°F and 90% relative humidity environment for any activities required;
4. Identify any additional provisions made to offset the high heat stresses on humans inside the DG room's elevated temperature environment. The provisions should duly account for the 90% design relative humidity in addition to 140° F dry-bulb temperature inside the DG room.

Enclosure

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. 329 RELATED TO  
SRP SECTIONS 9.1.1 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,

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. 4561

Enclosure:  
Request for Additional Information

cc: Mr. William Mookhoek  
Mr. 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. 4561

Enclosure:  
Request for Additional Information

cc: Mr. William Mookhoek  
Mr. James Agles

Distribution:  
PUBLIC  
NGE 1/2 R/F  
GWunder, NRO  
BAbeywickrama, NRO  
SChakrabarti, NRO  
KHawkins, NRO  
RidsNroDeSeb2  
RidsNroDnrINge2

ADAMS Accession No. ML100910190

NRO-002

OFFICE	SEB2	SEB2	NGE2/PM	NGE2/L-PM
NAME	SChakrabarti	KHawkins	TTai	GWunder
DATE	03/24/2010	03/25/2010	03/25/2010	03/31/2010

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

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Request for Additional Information No. 4561 Revision 3

3/30/2010

South Texas Project Units 3 and 4  
STPNOC

Docket No. 52-012 and 52-013

SRP Section: 09.01.01 - Criticality Safety of Fresh and Spent Fuel Storage and Handling  
Application Section: FSAR Section 9.1.1

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

**09.01.01-4**

Spent Fuel Racks Structural Evaluation

To address COL License Information Item 9.7, the applicant stated in FSAR Section 9.1.6.7 that a confirmatory structural evaluation of the racks will be provided in an FSAR amendment in accordance with 10 CFR 50.71(e) prior to receipt of fuel. Since structural integrity of the racks must be demonstrated under all postulated loading conditions for providing protection to the spent fuel from mechanical damage, the applicant is requested to provide details of analysis and design of the spent fuel racks using the guidance in SRP 3.8.4, Appendix D, in order for the staff to assess structural adequacy of the spent fuel racks.

**09.01.01-5**

New Fuel Inspection Stand Seismic Capability

To address COL License Information Item 9.5, the applicant stated in FSAR Section 9.1.6.5 that the risk of dumping personnel or the fuel inspection stand into the spent fuel pool during an SSE was addressed by a modified design for the New Fuel Inspection Stand (NFIS). In FSAR Section 9.1.4.2.3.2 the applicant stated that the modified NFIS is anchored into a pit on the refueling floor, and will retain the fuel assembly and maintain structural integrity during an SSE. The applicant removed ABWR DCD Figure 9.1-4 showing the NFIS included in the DCD. However, no similar Figure was included in the FSAR to replace the DCD Figure. Further, the description of the NFIS and its anchoring included in the FSAR is not sufficient for the staff to assess structural integrity of the stand or the anchorage during an SSE. Therefore, the applicant is requested to include in the FSAR diagrams showing primary structural elements of the modified NFIS and its anchorage, and describe how structural adequacy of the stand and its anchorage was determined in order to adequately address COL License Information Item 9.5.

Enclosure

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  
ASStubbs, 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/ASStubbs	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 its 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.