## PMSTPCOL PEmails

**From:** Joseph, Stacy
**Sent:** Monday, November 23, 2009 8:11 AM
**To:** 'Tomkins, James'
**Cc:** STPCOL
**Subject:** FW: Request For Additional Information Letter No. 232 Related To SRP Section 06.02.02 For the South Texas Project Combined License Application
**Attachments:** ML093230566.pdf; image001.jpg

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**From:** Keith, Felicia
**Sent:** Friday, November 20, 2009 7:46 AM
**To:** Bill Mookhoek; Scott Head; Chappell, Coley
**Cc:** Joseph, Stacy
**Subject:** Request For Additional Information Letter No. 232 Related To SRP Section 06.02.02 For the South Texas Project Combined License Application

TO: Scott Head

FROM: Stacy Joseph

DATE: November 19, 2009

ADAMS Accession No. ML093230566

Felicia Keith, Secretary
ESBWR/ABWR Projects Branch 2
Division of New Reactor Licensing
Office of New Reactors
301-415-2950
Felicia.Keith@nrc.gov

**Hearing Identifier:** SouthTexas34Public_EX
**Email Number:** 1917

**Mail Envelope Properties** (BBC4D3C29CD0E64E9FD6CE1AF26D84D51F2166042D)

**Subject:** FW: Request For Additional Information Letter No. 232 Related To SRP Section 06.02.02 For the South Texas Project Combined License Application
**Sent Date:** 11/23/2009 8:10:43 AM
**Received Date:** 11/23/2009 8:10:45 AM
**From:** Joseph, Stacy

**Created By:** Stacy.Joseph@nrc.gov

**Recipients:**
"STPCOL" <STP.COL@nrc.gov>
Tracking Status: None
"'Tomkins, James'" <jetomkins@STPEGS.COM>
Tracking Status: None

**Post Office:** HQCLSTR01.nrc.gov

| **Files** | **Size** | **Date & Time** |
|---|---|---|
| MESSAGE | 605 | 11/23/2009 8:10:45 AM |
| ML093230566.pdf | 104501 | |
| image001.jpg | 4368 | |

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

November 19, 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. 232 RELATED TO SRP SECTION 06.02.02 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 301-415-2849 or by e-mail at Stacy.Joseph@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

Sincerely,

**/RA/**

Stacy Joseph, Project Manager
ESBWR/ABWR Projects Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-012
52-013

eRAI Tracking No. 4011

Enclosures:
Request for Additional Information

cc: William Mookhoek
James Tomkins

If you have any questions or comments concerning this matter, I can be reached at 301-415-2849 or by e-mail at Stacy.Joseph@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

Sincerely,

**/RA/**

Stacy Joseph, Project Manager
ESBWR/ABWR Projects Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-012
52-013

eRAI Tracking No. 4011

Enclosures:
Request for Additional Information

cc: William Mookhoek
James Tomkins

Distribution:

| | | |
|---|---|---|
| PUBLIC | GMakar | RidsNroDeCib2 |
| NGE 2 R/F | RidsOgcMailCenter | GWunder |
| SJoseph | SKirkwood | |
| RidsNroDnrlNge2 | NRay | |

**ADAMS Accession No.: ML093230566** NRO-002

| OFFICE | CIB2/TR | CIB2/BC | NGE2/PM | NGE2/L-PM |
|---|---|---|---|---|
| NAME | GMakar | NRay | SJoseph | GWunder |
| DATE | 11/12/2009 | 11/12/2009 | 11/19/2009 | 11/17/2009 |

***Approval captured electronically in the electronic RAI system.**
**OFFICIAL RECORD COPY**

**Request for Additional Information No. 4011 Revision 2**
**South Texas Project Units 3 and 4**
**South Texas Project Nuclear Operating Co.**
**Docket Nos. 52-012 and 52-013**
**SRP Section: 06.02.02 - Containment Heat Removal Systems**
**Application Section: Appendix 6C**

QUESTIONS for Component Integrity, Performance, and Testing Branch 2 (ESBWR/ABWR Projects) (CIB2)

**06.02.02-11**

Please discuss how the chemical effects evaluation for STP 3&4 was conservative with respect to dissolution and precipitation over the full range of environmental conditions (e.g., pH and temperature) that may exist over the 30-day ECCS mission time. For example, based on the September 28, 2009, response to RAI 06.02.02-9, it appears dissolution testing was conducted only in the pure water environment, but the dissolution rate of aluminum would likely increase when the pH is raised with sodium pentaborate. The response to Item b of RAI 06.02.02-9 suggests the suppression pool pH-temperature-time profile may not have been calculated to determine, for example, the maximum pH and corresponding corrosion rate expected for aluminum. In your response, please address the materials that may be in containment and have been shown to form chemical precipitates, such as aluminum, calcium (e.g., from concrete), and silicon.

**06.02.02-12**

The September 28, 2009, response to RAI 06.02.02-9 states that aluminum is prohibited from containment, but small quantities could be introduced during the lifetime of STP 3&4. Since aluminum may be present, please provide the following information:

a. Address the possibility that aluminum could be a necessary constituent of equipment located in the containment and exposed to the post-LOCA fluid. The response to RAI 06.02.02-9 suggests insulation and latent debris are the only potential sources of aluminum.
b. Describe your approach to ensure that the aluminum in containment, which will dissolve at a rate that depends on temperature and pH, is acceptable with respect to the ECCS performance. For example, you could limit the amount of aluminum in containment based on the amount of chemical debris that causes unacceptable head loss.
c. If a limit will be placed on the amount of aluminum allowed in the containment, provide the basis for that amount and show how that limit will be made part of the licensing basis of each plant (e.g., revisions to the FSAR).

**06.02.02-13**

The September 28, 2009, response to RAI 06.02.02-10 describes the use WCAP-16406 ("Evaluation of Downstream Sump Debris Effects in Support of GSI-191") for evaluating downstream wear and blockage effects on components. Please confirm, and state in the FSAR, that this methodology will be used with the accompanying NRC Safety Evaluation (Final Safety Evaluation For Pressurized Water Reactor Owners Group Topical Report WCAP-16406-P, December 20, 2007, ML073520767.) Modify the FSAR to state how and when the evaluation will be provided to the NRC (e.g., identify the license condition mentioned in the response to RAI 06.02.02-10).

Enclosure