PMSTPCOL PEmails

From: Tai, Tom
Sent: Thursday, June 11, 2009 10:52 AM
To: John Price (jeprice@stpegs.com)
Cc: STPCOL
Subject: Draft RAI 2962 for Chapter 3.8.1
Attachments: RAI 2962 03.08.01-xx.doc

John,

Please review the attached RAI (03.08.01-xx) of Chapter 3.8.1 of the COL. If you need a conference call to clarify the requested information, please contact me. If a conference call is not needed, please send me an email and I will continue the formal process of issuing the RAI to STPNOC.

Regards

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Hearing Identifier: SouthTexas34Public_EX
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Recipients:
"STPCOL" <STP.COL@nrc.gov>
Tracking Status: None
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Request for Additional Information No. 2962 Revision 2

South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 03.08.01 - Concrete Containment
Application Section: 3.8.1

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

03.08.01-***

3.8.1-1

In FSAR Section 3.8, page 3.8-1, the applicant references the departure STD DEP 1.8-1, "Tier 2* Codes, Standards, and Regulatory Guide Edition Changes." One of the changes included in this departure updates Tier 2 to refer to the 2006 International Building Code (IBC) in place of the 1991 Uniform Building Code (UBC). These building codes are not endorsed by the NRC in their entirety, and use of these codes is evaluated by the staff on a case by case basis. The staff had previously evaluated only the use of 1991 UBC for the ABWR standard design. Therefore, the applicant is requested to provide a detailed comparison of the differences between these two codes as they apply to the ABWR standard design, and provide justification for any differences in order for the staff to evaluate the use of the 2006 IBC. Also, Section 3.8.1.3.1, item (2)(b), has been revised to read "Section 9.3 of ASCE Standards 7-88 and Section 1613 of the International Building Code (IBC) specify that …" This has created an apparent inconsistency, since IBC Section 1613 does not refer to Section 9.3 of the ASCE standard for relevant information. The applicant is requested to clarify the inconsistency.

03.08.01-***

In FSAR Appendix 3H, page 3H-1, the applicant references (site specific) departure STP DEP 1.8-1. However, no such departures could be located in Part 7, Departures Report, which instead included STD DEP 1.8-1. This appears to be an error. The applicant is requested to correct the error, or clarify this.

03.08.01-***

3.8.1-3

In FSAR Appendix 3H, Section 3H.1.4.2, sub-item (3), the applicant stated that the maximum flood level for STP units 3 & 4 site is 442 cm above grade against the corresponding ABWR standard design value of 0.305 m below grade (departure STP DEP T1 5.0-1). In Part 7 of the application, the applicant performed an evaluation of this departure, and stated that STP 3 & 4 safety-related SSCs are designed for or protected from this flooding event by watertight doors to prevent the entry of water into the Reactor Buildings and the Control Buildings in case of a flood. The applicant also stated that the

exterior doors located on the 12300 floor of the Reactor Building and Control Building are revised to be watertight doors. Since these doors play a significant role in protecting safety-related SSCs and constitutes a special design feature, the staff requests the applicant to include in the FSAR sufficient design information about these doors including locations, seismic and other design criteria, seismic classification, redundancy features, if any, and if these doors will be used for normal access and egress to and from the Reactor Building and the Control Building.

03.08.01-***

3.8.1-4

In FSAR Appendix 3H, Section 3H.1.6, "Site Specific Structural Evaluation," the applicant addressed the effect of increased maximum flood level (STP DEP T1 5.0-1) for STP units 3 & 4 on the design of the Reactor Building (RB). In this section the applicant stated that "the load due to the revised flood level on the RB is less than the ABWR Standard Plant RB seismic load, and hence it doesn't effect the Standard Plant RB structural design." The staff considers this evaluation to be very qualitative, and the evaluation does not adequately address all issues associated with increased flood level. Therefore, the staff requests the applicant to provide a quantitative evaluation considering all effects due to the increased flood level including wave effects, if any, potential loadings due to flow and drag, overall stability of the structure considering floatation, etc. Also, it is not understood why the factor of safety for foundation stability considering buoyant forces from design basis flood reported in Table 3H.1-23 of the ABWR Standard Plant is not considered affected by the increased flood level. The same issue applies to the site specific structural evaluation of the control Building presented in Section 3H.2.6, and factor of safety for foundation stability reported in Table 3H.2-5 of the ABWR Standard Plant.

03.08.01-***

3.8.1-5

In FSAR Section 3G, "Response of Structures to Containment Loads," the applicant stated that the information in this section is incorporated by reference to the ABWR DCD. However, a review of Appendix 3B, "Containment Hydrodynamic Loads," Table 3B-1, "Pool Swell Calculated Values," indicate that there has been significant increase in pool swell height and pressure loads for STP units 3 & 4 compared to those reported in the ABWR DCD. Therefore, the applicant is requested to confirm that the results of response of structures to containment loads reported in ABWR DCD, Appendix 3G, are unaffected by the containment hydrodynamic loads reported in Appendix 3B of STP units 3 & 4, and is appropriate to be incorporated by reference.