From:	Eudy, Michael
Sent:	Tuesday, September 22, 2009 6:51 PM
To:	Stephens, Scot
Cc:	Kellner, Robert; Frye, Timothy; STPCOL
Subject:	Revised Draft STP Chp 12 RAI 3519 !
Attachments:	RAI 3519 (rev1).doc

Importance: High

Scot,

Here is our revised RAI based on our recent telecons. I would like to get this out as soon as possible, so please let me know if you have any questions or you are ready for me to issue it. Thanks.

Michael A. Eudy - Project Manager
U.S. Nuclear Regulatory Commission
NRO/DNRL/NGE1&2
301-415-3104

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South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 12.03-12.04 - Radiation Protection Design Features
Application Section: 12.3

QUESTIONS for Health Physics Branch (CHPB)

12.03-12.04-***

During the radwaste system audit completed by the NRC in July 2009, NRC staff noted that several radiation shielding computer codes being utilized by STP are not described in the ABWR DCD or the STP COL. STP indicated that following transfer of the design from GEH to Toshiba, MicroShield 5 and a proprietary computer code named 'Digester' have been used to verify shielding design calculations in the redesigned radwaste building. However, Section 12.3.2.2.2 of the ABWR DCD, which is incorporated by reference in the STP FSAR, states that QADF, GGG, and DOT4.4 are the computer programs used for the ABWR DCD shielding design. The STP FSAR does not contain any supplemental information concerning radiation shielding computer codes being utilized to support the STP COLA.

RG 1.206 Section C.I.12.3.2 and SRP Chapter 12.3-12.4, Section I.2.B contains the radiation shielding information that is to be included in the FSAR. The information to be provided includes: description of the methods used to determine the shield parameters, as well as pertinent assumptions, codes, and techniques used, or to be used, in the calculations.

In order to make a determination of reasonable assurance of the adequacy of STP 3 & 4 radiation shielding, the staff requests that the applicant provide the following additional information concerning the radiation shielding computer codes being utilized by STP and their subcontractors to support the STP COLA, including all departure evaluations from the ABWR DCD that could affect radiation doses to workers and the public:

1) Specify if there are any radiation shielding computer codes, not previously identified in the ABWR DCD, now being relied on to demonstrate compliance with any portion of the licensing basis. In addition, include a discussion of the impact accordingly.

2) Specify if any radiation shielding reviews and evaluations performed by STP, including any that could affect radiation doses to workers and the public, result in a departure from the ABWR DCD per 10 CFR 52, Appendix A. In addition, provide the 10 CFR 52 evaluation results if completed.

3) Since MicroShield 5 is not available from the Radiation Safety Information Computational Center (RSICC), describe or provide the information to ensure the quality assurance of the computer code as it is used in STP 3 & 4 shielding and dose rate calculations.

4) Provide a basic description of the Digester code and describe how, and for what locations, it is being used to support STP 3 & 4 shielding and dose rate calculations. Identify any restrictions or limitations of the Digester code.

5) Identify the STP 3 & 4 locations in the plant layout where MicroShield 5, or other radiation shielding computer codes not previously identified in the ABWR DCD, have been, or may be, used to analyze dose rates or radiation shielding. In addition, provide a description of the basis for use of the code(s) at these locations.

6) MicroShield 5 code is an early version of a commercially available program. Later versions of MicroShield have been developed but are not used or described in the STP 3 & 4 FSAR. Provide justification for not using an updated version of the code.

7) Revise the STP 3 & 4 FSAR to include the information provided in the response to items 1 through 6 above and provide a markup of the proposed FSAR changes in the response.