

December 2, 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. 292 RELATED TO
SRP SECTIONS 12.02 and 12.03-12.04 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 301-415-3104 or by e-mail at Michael.Eudy@nrc.gov or you may contact George Wunder at 301-415-1494 or by e-mail at George.Wunder@nrc.gov.

Sincerely,

/RA/

Michael Eudy, Project Manager
ABWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-012
52-013

eRAI Tracking Nos. 3981, 3982, and 3984

Enclosure:
Request for Additional Information

cc: William Mookhoek
Scot Stephens

S. Head

-2-

If you have any questions or comments concerning this matter, I can be reached at 301-415-3104 or by e-mail at Michael.Eudy@nrc.gov or you may contact George Wunder at 301-415-1494 or by e-mail at George.Wunder@nrc.gov.

Sincerely,

/RA/

Michael Eudy, Project Manager
ABWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-012
52-013

eRAI Tracking Nos. 3981, 3982, and 3984

Enclosure:
Request for Additional Information

cc: William Mookhoek
Scot Stephens

Distribution:
PUBLIC
NGE 1/2 R/F
GWunder, NRO
MEudy, NRO
BAbeywickrama, NRO
RKellner, NRO
ERoach, NRO
SKirkwood, OGC
RidsNroDcipChpb
RidsNroDnrlNge2

ADAMS Accession No. ML093360239

NRO-002

OFFICE	CHPB/TR	CHPB/BC	NGE2/PM	NGE2/L-PM
NAME	RKellner	TFrye	MEudy	GWunder
DATE	11/4/09	11/12/09	12/2/09	11/20/09

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

Request for Additional Information No. 3984 Revision 3

**South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 12.02 - Radiation Sources
Application Section: 12.2**

QUESTIONS for Health Physics Branch (CHPB)

12.02-14

RG 1.206, Regulatory Position C, Part III.1, Section C.III, Chapter 12, Section C.I.12.2.1, Contained Sources, states that the applicant should describe radiation sources that are not identified above (i.e. in Section C.I.12.2, Radiation Sources), and Regulatory Position C, Part III.1, Section C.III.1, Introduction, refers the COL applicant to the guidance contained in Regulatory Position C, Part I, Section C.I, as appropriate. Regulatory Position C, Part I.12, Section C.I.12.2.1, Contained Sources, states that the sources of radiation, during normal plant operations and accident conditions, that are the bases for the radiation protection design and that the sources should be described in the manner needed for input to the shield design calculation, including the spent fuel pool. The radiation source and geometry information for "Spent Fuel Storage" found in Table 12.2-5a, and Table 12.2-5b, of the STP 3 & 4 FSAR appears to be incomplete. In both cases the tables state "Applicant" with no information provided.

In accordance with RG 1.206, the staff requests that the applicant include radiation source and geometry information for Spent Fuel Storage in FSAR Tables 12.2-5a and Table 12.2-5b of the STP 3 & 4 FSAR. In addition, please provide a markup of the proposed FSAR changes in the response.

Enclosure

Request for Additional Information No. 3982 Revision 3

**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)

12.03-12.04-13

The response to RAI 12.03-12.04-4 (Letter U7-C-STP-NRC-090121, ADAMS Document Number ML092430071) does not address the information required by COL Information Item 12.3.7.2. STP stated in the response that FSAR subsection 12.3.4 discusses the ARM system including location, alarms, and sensitivity, and that Subsection 14.2.12.1.24 discusses ARM preoperational test requirements. The response also states that COLA Subsection 12.3.7.2, and incorporation of NEI 07-03 as the operational radiation protection program basis in COLA Subsection 12.5S, fully addresses the required information concerning the operational considerations for STP 3 & 4 fixed area and airborne monitors, including calibration methods and frequency. In the RAI response discussion STP also stated that calibration procedures for preoperational testing operational calibration will be in accordance with the vendor instructions and the guidance in ANSI/ANSI 6.8.1. ANSI/ANSI 6.8.1 discusses basic ARM calibration methods and frequency.

However, calibration methods and frequency of fixed area and airborne monitors are not discussed in COLA Subsection 12.3.4, 12.3.7.2, 12.5S, ABWR DCD subsection 14.2.12.1.24, or NEI 07-03. ABWR DCD subsection 14.2.12.1.24 only identifies the manufacturer's technical manuals for calibration and that "Proper calibration of detector assemblies and associated equipment using a standard radiation source or portable calibration unit" will be completed during testing. NEI 07-03 states that instrumentation and equipment used to perform surveys will be calibrated prior to initial use and at least annually, but it does not include ARM's or airborne monitors. In addition to vendor technical manuals there are numerous national and industry standards (ANSI, IEEE, ANSI, NCSL, etc.) that address ARM and airborne monitor maintenance and calibration programs and methods, and calibration frequency determination methods, which are not referenced in the response.

In order to make a determination of reasonable assurance that the FSAR contains sufficient information concerning ARM and airborne monitor calibration methods and frequencies that will be utilized during operation of STP 3 & 4, the staff requests that the applicant include the following supplemental information in FSAR Section 12.3.7.2 or 12.5S:

- 1) Clearly state the calibration methods that will be utilized for ARM and airborne monitors during operation of STP 3 & 4, including whether national or industry standards will be used in conjunction with the manufacturer's technical manuals.
- 2) Clearly state the calibration frequency requirements that will be applied to ARM and airborne monitors during operation of STP 3 & 4, including any national or industry standards will be utilized to establish or determine ARM and airborne monitor calibration frequencies.
- 3) Provide a markup of the proposed FSAR changes in the response.

Request for Additional Information No. 3981 Revision 3

**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: 12.3.8

QUESTIONS for Health Physics Branch (CHPB)

12.03-12.04-14

In the response to RAI 12.03-12.04-9 (Letter U7-C-STP-NRC-090125, ADAMS Document Number ML092510039), STP included a summary of construction activities and bases of dose calculations, as well as a table containing the calculated person-Sievert dose for each unit. In addition, the response referenced Sections 3.9S, 3.10S, and 4.5 of COLA Part 3 (the STP 3&4 Environmental Report) as containing additional information. With the exception of the calculated annual person-Sievert dose per unit, the STP 3&4 Environmental Report, COLA Part 3, contains the information requested in RAI 12.03-12.04-9. However, the Environmental Report is a separate stand alone document and is not part of the FSAR.

In order to make a determination of reasonable assurance that the FSAR contains sufficient information related to the bases, models, assumptions, and input data used in the assessment and calculation of construction worker dose, the staff requests that the applicant include in FSAR Section 12.3.8 supplemental information equivalent to what is contained in the STP 3&4 Environmental Report (COLA Part 3, Section 4.5) concerning construction worker dose including the following:

- 1) The calculated annual person-Sievert construction worker dose for each unit.
- 2) The bases, models, assumptions, and input data used to calculate construction worker dose.
- 3) Describe any dose reduction measures identified or taken as a result of the construction worker dose assessment process.
- 4) Indicate if the guidance in RG 8.19 was used to perform the construction worker dose assessment. If RG 8.19 was not used, describe the specific alternative methods used.
- 5) Clearly indicate whether construction workers will be considered Members of the Public or occupational workers during construction of STP 3&4, and how STPNOC will demonstrate compliance with the applicable requirements of 10 CFR 20 Subpart C or Subpart D.
- 6) Provide a markup of the proposed FSAR changes in the response.