Nuclear Operating Company

South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

May 21, 2009
U7-C-STP-NRC-090047

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Response to Request for Additional Information

Attached are responses to NRC staff questions included in Request for Additional Information (RAI) letter numbers 97, 98, and 99, related to Combined License Application (COLA) Part 2, Tier 2, Sections 11.2, 11.3, and 11.4, respectively.

The Attachments provide responses to the RAI questions listed below:

RAI 11.02-3
RAI 11.03-1
RAI 11.04-3

Where a revision to the COLA is required, it will be incorporated into the next routine revision of the COLA following NRC acceptance of the RAI response.

There are no commitments in this letter.

If you have any questions regarding these responses, please contact me at (361) 972-7136, or Bill Mookhoek at (361) 972-7274.

D091
NRO

STI 32474844

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 5/21/09

Scott Head
Manager, Regulatory Affairs
South Texas Project Units 3 & 4

scs

Attachments:

1. Question 11.02-3
2. Question 11.03-1
3. Question 11.04-3

cc: w/o attachment except*
(paper copy)

Director, Office of New Reactors
U. S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-8064

Kathy C. Perkins, RN, MBA
Assistant Commissioner
Texas Department of Health Services
Division for Regulatory Services
P. O. Box 149347
Austin, Texas 78714-9347

Alice Hamilton Rogers, P.E.
Inspections Unit Manager
Texas Department of Health Services
P. O. Box 149347
Austin, Texas 78714-9347

C. M. Canady
City of Austin
Electric Utility Department
721 Barton Springs Road
Austin, TX 78704

*Steven P. Frantz, Esquire
A. H. Gutterman, Esquire
Morgan, Lewis & Bockius LLP
1111 Pennsylvania Ave. NW
Washington D.C. 20004

*George F. Wunder
*Raj Anand
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852

(electronic copy)

*George Wunder
*Raj Anand
Loren R. Plisco
U. S. Nuclear Regulatory Commission

Steve Winn
Eddy Daniels
Joseph Kiwak
Nuclear Innovation North America

Jon C. Wood, Esquire
Cox Smith Matthews

J. J. Nesrsta
R. K. Temple
Kevin Pollo
L. D. Blaylock
CPS Energy

RAI 11.02-3:

QUESTION:

Liquid Waste Management System, Section 11.2 of the FSAR, states that the ABWR DCD Section 11.2 is replaced completely by the FSAR 11.2 section. It goes on to say that the departure to a design "includes the use of mobile technology and deletes the forced-circulation concentrator system." Staff did not find a new liquid effluent table based on this change in design. Justify continued use of the ABWR DCD liquid effluents as listed in Table 12.2-22 of the FSAR.

RESPONSE:

Table 12.2-22 in COLA Rev. 2 contains the result of a site specific evaluation of annual average liquid releases. The quantity of activity released is based on the GALE code methodology, as specified in NUREG-0016, and takes into account the change to the radwaste system. The dilution factors used in evaluating the liquid effluents are also site specific. Table 12.2-22 in COLA Rev. 2 replaces Table 12.2-22 in the DCD. Although the nuclides considered in the COLA are very similar to the nuclides considered in the DCD, the annual release and concentration in the COLA are different from the DCD because of the site specific calculations.

No COLA revisions are required as a result of this response.

RAI 11.03-1

QUESTION:

FSAR Section 11.3.11.1 - Please provide an updated plant- and site-specific cost-benefit analysis in FSAR Section 11.3.11.1 for the Gaseous Waste Management System. This cost/benefit analysis should provide all sufficient specific information for the staff to evaluate the bases and assumptions used in the analysis and to conduct an independent confirmation of compliance with NRC regulations and guidance.

RESPONSE:

The calculation performed to support the Cost Benefit Analysis for the Gaseous Waste Management System contained in Section 11.3 of the COLA is available for review.

No COLA revisions are required as a result of this response.

RAI 11.04-3

QUESTION:

In FSAR, page 11.4-8, it is stated: "The expected annual volumes of solid radwaste to be shipped offsite are estimated in Table 11.4-3. Specific container types are determined by STP 3 and 4 operating procedures. For estimating the number of containers and the number of potential shipments, typical industrial containers with useful volumes of 99 cubic feet for class B waste and 174 cubic feet for class A waste were used for the calculation. It is estimated that for six months operation, about 10 containers of class B waste and 80 containers of class A waste are generated. Number of shipments is determined by STP to support plant operations."

1) Calculation of Class B and C LLW, in Section 11.4.2.2.6, indicate 990 and 13,920 ft^3 of waste for a six month operation yielding a 29,820 ft^3 or 845 m^3 of waste for a year. However, Table 11.4-3 of the FSAR on page 11.4-13 indicates a sum of 473.5 m^3 of "Estimated Shipped Solid Waste Volumes". Please explain the waste volume differences.

2) From the text on page 11.4-8 of the FSAR in section 11.4.2.2.6 it is unclear if the volume indicated for waste is for one or two units.

3) In all the discussions and text in the above sections and tables concerning "waste", shouldn't "radwaste" be used consistently in these discussions?

RESPONSE:

Following are the responses to each of the three questions identified above.

1) The expected volume of solid radioactive waste generated each year by each unit is summarized in FSAR Table 11.4-3. The estimated number and type of waste containers that will be used to store this volume of waste are derived in FSAR Table 11.4-6. Although this table specifically addresses storage, it also represents the number and types of containers that will be shipped offsite for disposal. Note that the containers identified in Table 11.4-6 are typical of the containers in use today. The actual containers that will be used will depend on many factors, including the requirements of the disposal facility that cannot be quantified at this time. Therefore, these estimates should be considered representative and do not represent any limitation on the operation of the plants.

   Most of the solid waste material that will be generated and shipped offsite for disposal is expected to be Class A. However, some of the filter/demineralizer sludge or resin will have high enough activity to be Class B or Class C waste. For planning purposes it is assumed that all of the dry waste is Class A. As indicated in FSAR Table 11.4-1, more than 90% of

the solid waste will be Class A. The remaining solid waste is expected to be classified as Class B.

Since Tables 11.4-3 and 11.4-6 contain the volume of solid waste and number of containers that are expected to be shipped from the plant, Section 11.4.2.2.6 will be revised to refer to these tables for the solid waste quantities.

2) As stated in the response to 1), the volume will be removed from FSAR Section 11.4.2.2.6 and replaced with references to Tables 11.4-3 and 11.4-6. The FSAR section will be clarified to indicate that these tables are for a single unit.

3) The term "waste" rather than "radwaste" is used throughout the COLA to refer to the material processed by the various systems specifically designed for processing liquids, gases or solids containing radioactivity. This practice is consistent with the DCD and most industry and regulatory documents. The term "radwaste" is synonymous with "radioactive waste" and is frequently used when referring to specific systems or structures. However, in the COLA the term "waste" is preferred when referring to the process material, with adjectives such as "radioactive" or "mixed" used if the meaning is not clear. No changes will be made to the COLA.

FSAR Section 11.4.2.2.6 will be revised as indicated below.

Waste is classified as A, B, or C and meet the requirements of the waste treatment facility or repository per 10 CFR 61.55 and 61.56. The packaging and shipment of radioactive solid waste for disposal will be in compliance with 10 CFR 20 Appendix G and 49 CFR 173, Subpart I. The expected annual volumes of solid radioactive waste to be shipped offsite for each unit are estimated in Table 11.4-3. The number and types of containers required to ship this volume of waste are estimated in Table 11.4-6. Specific container types are determined by STP 3 & 4 operating procedures and may be different from the containers identified in Table 11.4-6. It is expected that all of the dry waste and more than 90% of the wet waste will be Class A waste. The remaining waste will be Class B waste. ~~For estimating the number of containers and the number of potential shipments, typical industrial containers with useful volumes of 99 cubic feet for class B waste and 174 cubic feet for class A waste were used for the calculation. It is estimated that for six months operation, about 10 containers of class B waste and 80 containers of class A waste are generated.~~ Number of shipments is determined by STP to support plant operations.