



South Texas Project Electric Generating Station 4000 Avenue F – Suite A Bay City, Texas 77414

August 26, 2009
U7-C-STP-NRC-090119

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

Reference: Letter, Scott Head to NRC, "Response to Request for Additional Information," dated August 20, 2009 (U7-C-STP-NRC-090104, ML092360771)

Attached are the responses to the NRC staff questions included in Request for Additional Information (RAI) letter number 163 related to Combined License Application (COLA) Part 2, Tier 2, Section 9.2. This submittal and the reference complete the response to this RAI letter.

The three (3) attachments to this letter address the responses to the RAI questions listed below:

09.02.04-3
09.02.04-4
09.02.04-5

When a change to the COLA is indicated, it will be incorporated in the next routine revision of the COLA following the NRC acceptance of the RAI response.

There are no commitments in this letter.

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

STI 32525220

DO91
NRC

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

Executed on 8/26/09



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

jaa

Attachments:

1. RAI 09.02.04-3
2. RAI 09.02.04-4
3. RAI 09.02.04-5

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

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RAI 09.02.04-3**QUESTION:**

STP DEP 9.2-8, "Potable and Sanitary Water System," addresses several plant modifications, including the change from a single unit to dual units (STP 3&4) that is described in STP DEP 1.1-2. The change from a single unit to a dual unit design means that there may be the possibility for radioactive contamination introduced into the PSW at one unit to spread into another unit by means of shared equipment and/or cross-connections. Per the STP COL, the sewage treatment and sanitary drainage systems will collect and process sanitary waste for all four units at the site. However, the STP COL does not appear to explicitly indicate whether or not there are any cross-connections between potable water supply systems.

Section 3 of the Departures Report indicates that STP DEP 9.2-8 has been evaluated and determined to comply with the requirements of 10 CFR 52, Appendix A, Section VIII.B.5. However, the staff has not been able to find enough information to determine the acceptability of the applicant's evaluation per the requirements in 10 CFR 52, Appendix A, Section VIII.B.5. Specifically, the applicant did not address how the proposed PSW System design precludes the potential for cross-contamination between units in the event radiological contamination occurs in one unit's PSW System. A review of the design for potential cross-contamination is also consistent with the acceptance criteria specified in Standard Review Plan (SRP) 9.2.4 related to multi-unit facilities. More specifically, SRP 9.2.4, Subsection II specifies an evaluation be performed to determine the potential for radiological contamination that includes consideration of the safety implications of sharing between multi-unit facilities.

Describe how the proposed PSW System design precludes the potential for cross-contamination between units and compliance to Bulletin 80-10 and acceptance criteria II.1.C in SRP 9.2.4. Include this information in the STP COL FSAR and provide a markup in your response.

RESPONSE:

The only cross-connection between the Potable and Sanitary Water Systems for Units 3 & 4 occurs where the discharge of the Hydropneumatic Storage Tank splits for Units 3 & 4. A backflow preventer will be provided for both Unit 3 and Unit 4 to prevent cross contamination in the event that one unit becomes contaminated. Additionally, a backflow preventer will be provided at the entrance to each building supplied by the Potable and Sanitary Water System to prevent cross-contamination.

As a result of this RAI response, COLA Part 2, Tier 2, Subsection 9.2.4.2.5 will be revised as shown below. In addition, the Potable and Sanitary Water P&ID (Figure 9.2-9b) will be revised to show the backflow preventers as shown in the attached markup of Rev 2 of the COLA.

9.2.4.2.5 Evaluation of Potable and Sanitary Water System Performance (Interface Requirements)

The PSW system will be designed with no interconnections with systems having the potential for containing radioactive materials. Protection will be provided through the use of air gaps, where necessary. A backflow preventer will be provided for both Unit 3 and Unit 4 to prevent cross contamination in the unlikely event that a unit becomes contaminated with radioactive materials. Additionally, a backflow preventer will be provided at the entrance to each building supplied by the Potable Water System to prevent cross-contamination.

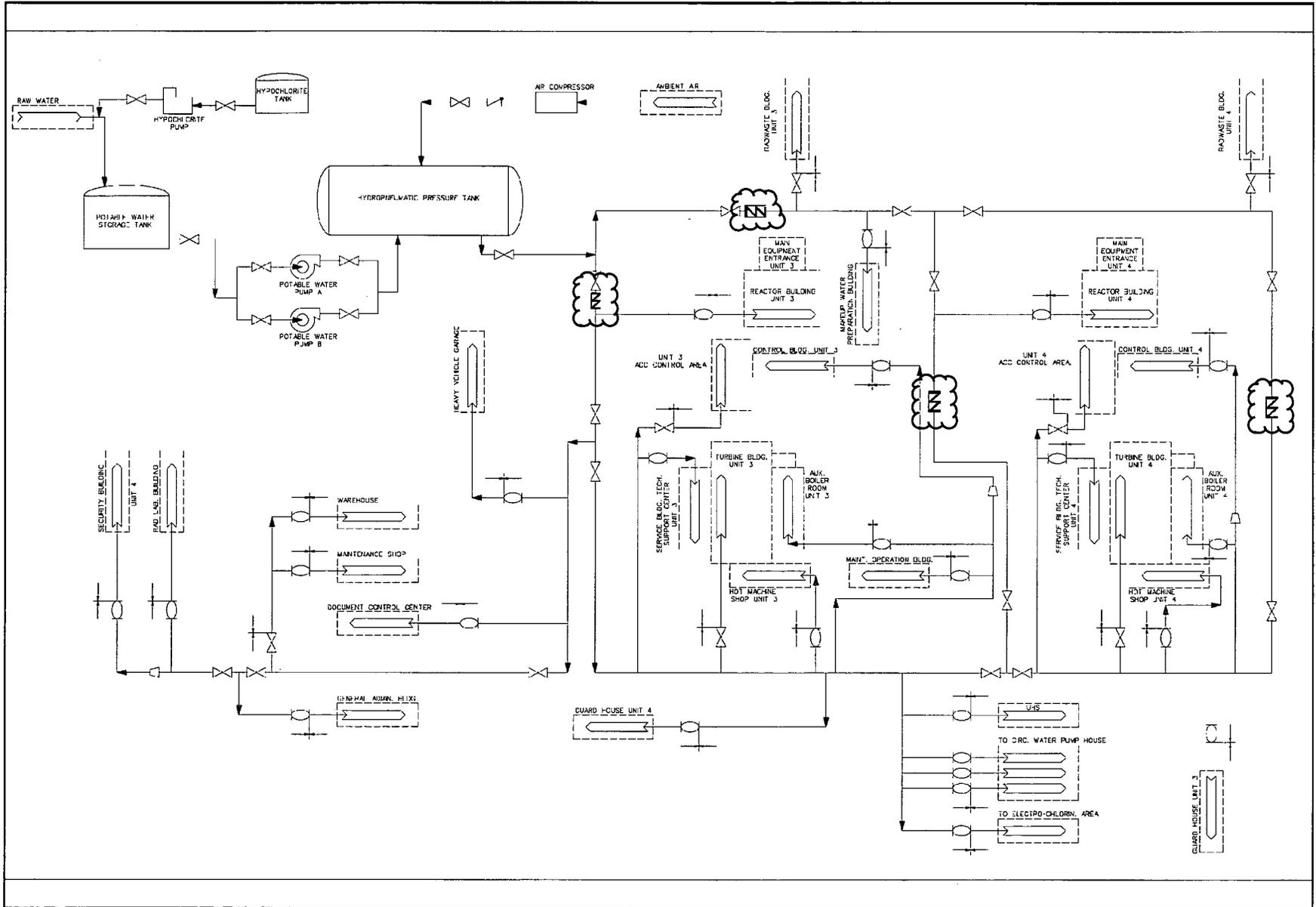


FIGURE 9.2-9b POTABLE WATER SYSTEM P&ID

RAI 09.02.04-4**QUESTION:**

In section 9.2.4 of the STP COL application, Figure 9.2-9, "Potable and Sanitary Water System (Sheet 1 of 2)," is provided, however, sheet 2 of 2 for Figure 9.2-9 was not included. Furthermore, Figure 9.2-9 is not included in Chapter 21 of the FSAR. Please provide Figure 9.2-9, sheet 2 of 2.

RESPONSE:

As noted immediately after Table 9.2-26 in Section 9.2 of COLA Rev 2, the second sheet of Figure 9.2-9, which is the Potable and Sanitary Water System P&ID, is provided in Chapter 21. That figure was provided in Chapter 21 of Rev 2 of the COLA and is identified as Figure 9.2-9b. That figure is the second sheet of Figure 9.2-9.

As a result of this response, the COLA will be revised as shown in the attached markups to Rev 2 of the COLA in order to provide consistency in the numbering of this figure. Text changes are shown with gray highlighting and the title of Figure 9.2-9 is revised as shown.

Figure 21.0-1 List of Chapter 21 Figures with Changes (Continued)

Chapter	Figure	Sheet No.	Title	Departure No.
9	9.2-9b		Potable and Sanitary Water System P&ID (sheet 2 of 2)	Supplement

Revise Title of Figure 9.2-9b as follows:

FIGURE 9.2-9b POTABLE AND SANITARY WATER SYSTEM P&ID (Sheet 2 of 2)

Immediately after Table 9.2-26, revise the 6th bullet item as follows:

- Figure 9.2-9 Potable and Sanitary Water System P&ID (Sheet 2 of 2)

RAI 09.02.04-5**QUESTION:**

Final Safety Analysis Report (FSAR) Section 9.2.8.3.6 states that makeup water preparation system (MWPS) failures, including those that result in flooding, will not result in the failure of safety-related structures, systems and components (SSCs). However, except for the provision to enclose much of the MWPS within the makeup water preparation (MWP) building which does not contain any safety-related SSCs, no discussion is provided for what other design provisions are necessary for protecting safety-related SSCs from MWPS failures that occur outside the MWP building. For example, flood barriers and site grading requirements that are necessary to prevent water from tank/basin failures from impacting safety-related SSCs are not described. Please explain how the requirements of GDC to are satisfied, and revise the FSAR as necessary.

RESPONSE:

The purpose of the Makeup Water Preparation System (MWPS) is to provide demineralized water for the Makeup Water Purification (MUWP) system. It consists of a series of storage tanks, pumps, filters and demineralizers which convert well water to purified water fit for use in the MUWP system. As shown in the block diagram (FSAR Figure 9.2-10), none of the components of the MWPS directly interact with any safety-related SSC and none are co-located with any safety-related SSC.

As noted in Section 9.2.8.3.6 of the DCD, all of the subsystems for the MWPS are housed in the MWP Building except for the well water storage tank, filtered water storage tank and demineralized water storage tanks, all of which are located outdoors. The MWP Building, itself, does not contain any safety-related structures, systems or components.

For the STP 3&4 plants, the design basis flood is a failure of the Main Cooling Reservoir (MCR) embankment. A detailed description of the design considerations for this design basis flood relative to protection of safety-related SSC's is provided in Section 2.4S.2.2 of Part 2, Tier 2 of the COLA. This event encompasses all other potential flooding events, including any potential flooding due to MWPS failures.

There are no COLA changes required as a result of this response.