

4.0 DESIGN FEATURES

The information in this section of the reference ABWR DCD, including all subsections, is incorporated by reference with the following [departure and](#) site-specific supplements. The site-specific supplements partially address COL License Information Item 16.1.

[STP DEP T1 2.5-1](#)

4.1 Site

4.1.1 Site and Exclusion Area Boundaries

~~The site and exclusion area boundaries shall be~~ are as described or as shown in Figure 4.1-1 follows:

The STP site is located approximately 89 miles southwest of Houston, Texas, and 200 miles southeast of Austin, Texas. The site area is approximately 12,200 acres located in a rural area of south-central Matagorda County. STP 3 & 4 are located within the Exclusion Area Boundary (EAB) already designated for STP 1 & 2. The site boundary entirely encompasses the designated EAB for STP 3 & 4. The EAB is an oval having a minimum distance of approximately 4692 feet from the center of each of the STP 1 & 2 Reactor Containment Buildings. The center of the exclusion area "oval" is a point approximately 305 feet directly west of the center of the Unit 2 Reactor Containment Building.

4.1.2 Low Population Zone (LPZ)

~~The LPZ shall be~~ is defined by the 3-mile radius circle from a point approximately 305 feet directly west of the center of the Unit 2 Reactor Containment Building. This point is also the center of the existing STP 1 & 2 LPZ as described or as shown in Figure 4.1-2.

[STP DEP T1 2.5-1](#)

4.3 Fuel Storage

4.3.1 Criticality

4.3.1.1 *The spent fuel storage racks are designed and shall be maintained with:*

- a. *Fuel assemblies having a maximum k-infinity of 1.35 in the normal reactor core configuration at cold conditions;*
- b. *$k_{eff} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.1 of the DCD Tier 2; and,-*

~~4.3.1.2 *The new fuel storage racks are designed and shall be maintained with:*~~

- ~~a. *Fuel assemblies having a maximum k-infinity of 1.35 in the normal*~~

~~reactor core configuration at 20°C;~~

- ~~b. $k_{eff} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.1 of the DGD Tier 2;~~
- ~~c. $k_{eff} \leq 0.98$ if moderated by aqueous foam, which includes an allowance for uncertainties as described in Section 9.1 of the DGD Tier 2; and~~
- c. ~~d.~~ A nominal [approximately 16] cm . center to center distance between fuel assemblies placed in storage racks.

~~(This figure shall be supplied by the COL applicant.)~~

~~This figure shall consist of [a map of] the site area and provide, as a minimum, the information described in Section [2.1.2] of the FSAR relating to [the map].~~

~~Figure 4.1 1 (page 1 of 1)
Site and Exclusion Area Boundaries~~

~~(This figure shall be supplied by the COL applicant.)~~

~~This figure shall consist of [a map of] the site area showing the LPZ boundary. Features such as towns, roads, and recreational areas shall be indicated in sufficient detail to allow identification of significant shifts in population distribution within the LPZ.~~

~~Figure 4.1-2 (page 1 of 1)
Low Population Zone~~