

4.0 DESIGN FEATURES

4.1 Site

4.1.1 Site Location

The North Anna ISFSI is located approximately 2000 feet southwest of the North Anna Power Station Units 1 and 2 protected area and within the boundaries of the North Anna site. The North Anna site is located in the north-central portion of Virginia in Louisa County and is approximately 40 miles north-northwest of Richmond, 36 miles east of Charlottesville; 22 miles southwest of Fredericksburg; and 70 miles southwest of Washington, D.C. The site is on a peninsula on the southern shore of Lake Anna at the end of State Route 700.

4.2 Storage Features

4.2.1 Storage Cask

The North Anna ISFSI is licensed to store spent fuel in the TN-32 dry storage cask.

4.2.2 Storage Capacity

The total storage capacity of the North Anna ISFSI is limited to 839.04 metric tons uranium.

4.2.3 Storage Pad

The North Anna ISFSI storage pad is reinforced concrete, with nominal dimensions of 224 feet x 32 feet x 2 feet thick with a 40-foot ramp on each end for vehicle access. The pad is designed to store 28 SSSCs arranged in two rows. The SSSCs in each row will be spaced a minimum of 14 feet apart center to center. Each row of SSSCs will be spaced a minimum of 14 feet apart center to center. For SSSCs whose heat load exceeds 27.1 KW the spacing shall be a minimum of 16 feet apart center to center. The facility will have up to three storage pads.

4.2.4 Criticality

The boron content of the SSSC basket poison material shall have a minimum areal density of 10 mg boron-10/cm². Fabrication testing to ensure the minimum areal density of the basket poison material is met is outlined in the North Anna ISFSI FSAR.