

## **2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment**

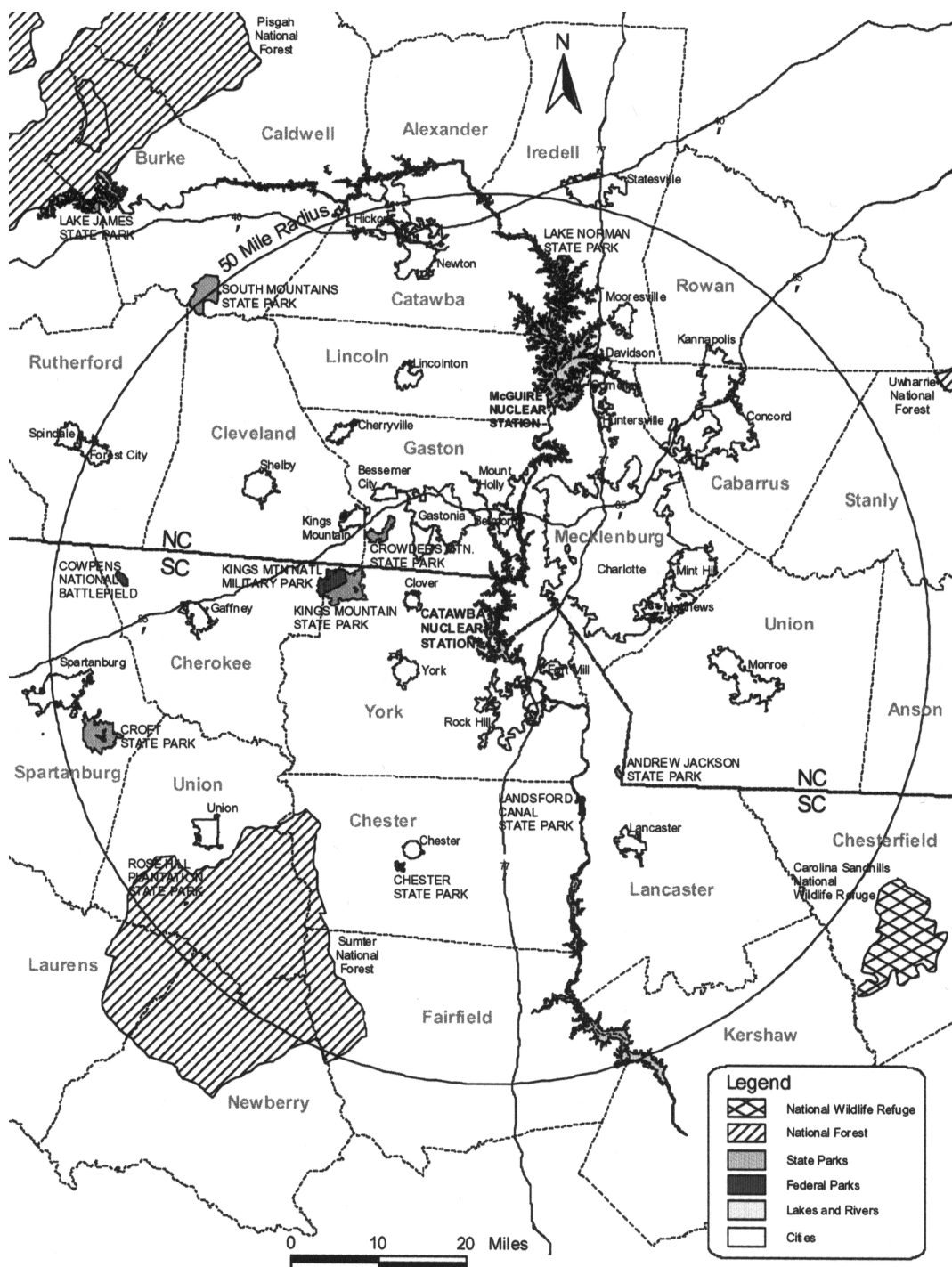
The Catawba Nuclear Station, Units 1 and 2 (Catawba), owned by Duke Energy Corporation (Duke), is located in York County, South Carolina. It is situated on a peninsula that protrudes into Lake Wylie, a man-made lake created by the Wylie Dam. Both units are the subject of this action. Each reactor is a pressurized light-water reactor (LWR) with four steam generators producing steam that turns turbines to generate electricity. Each unit has six mechanical draft cooling towers for heat removal. The station and its environs are described in Section 2.1, and its interaction with the environment is presented in Section 2.2.

### **2.1 Plant and Site Description and Proposed Plant Operation During the Renewal Term**

Catawba is located on 158 ha (391 ac) of Duke-owned land in rural north-central South Carolina (Duke 2001a). Figures 2-1 and 2-2 show the site location and features within 80 and 10 km (50 and 6 mi), respectively. Duke refuels each Catawba nuclear unit on an 18- to 24-month schedule. During these refueling periods, site employment increases by as many as 500 workers for temporary duty over a 30- to 40-day period. Catawba has approximately 1218 full-time workers employed by Duke and site contractors during normal plant operations. The plant is located approximately 29 km (18 mi) southwest of Charlotte, North Carolina. Rock Hill, South Carolina, the nearest city, is about 10 km (6 mi) south of the site.

Lying within the Piedmont physiographic province, the Catawba site is characterized by rolling hills and numerous small streams and rivers. The site and surrounding area vary in elevation from 174 to 193 m (570 to 632 ft), are dominated by Iredell soils, and harbor typical piedmont plant communities and land cover types, predominantly pine and pine-mixed hardwoods (Duke 2001a).

Four parks, three located in and owned by York County (Ebenezer Park, Pitcarin Cove Park, and Wind Jammer Beach Park) and one located in and owned by Mecklenburg County (McDowell Park), are within a 10-km (6-mi) radius of the Catawba site. Eight state parks (Andrew Jackson State Park, Chester State Park, Croft State Park, Crowders Mountain State Park, Kings Mountain State Park, Lake Norman State Park, Rosehill Plantation State Park, and South Mountains State Park), Cowpens National Battlefield, Kings Mountain National Military Park, and the Catawba Indian Reservation are located within 80 km (50 mi) of Catawba (Duke 2001a).



**Figure 2-1.** Location of Catawba 80-km (50-mi) Region (Duke 2001a)



**Figure 2-2.** Location of Catawba 10-km (6-mi) Region (Duke 2001a)

