

GGNS  
EARLY SITE PERMIT APPLICATION  
PART 4 – EMERGENCY PLANNING INFORMATION

## 2.0 IDENTIFICATION OF PHYSICAL SITE CHARACTERISTICS

### 2.1 Site Description

#### 2.1.1 Location and Physical Characteristics

The proposed new facility will be located on the site of the existing Grand Gulf Nuclear Station (GGNS), which is located in Claiborne County in southwestern Mississippi. The GGNS site is located approximately 6 miles northwest of Port Gibson, Mississippi, and 37 miles north-northeast of Natchez, Mississippi. The Universal Transverse Mercator grid coordinates for the proposed reactor(s) location for the new nuclear power plant unit(s) are approximately N3,543,261 meters, and E684,018 meters.

The property boundary shown on Figure 2-1 encompasses approximately 2100 acres of property that makes up the Grand Gulf Nuclear Station (GGNS) site. The site and its environs consist primarily of woodlands and farms. Within this area are two lakes, Gin Lake and Hamilton Lake. These lakes were once the channel of the Mississippi River and average about 8 to 10 feet in depth.

The western half of the plant site consists of materials deposited by the Mississippi River and extends eastward from the river about 0.8 mile. This area is generally at elevation 55 to 75 feet above mean sea level (msl).

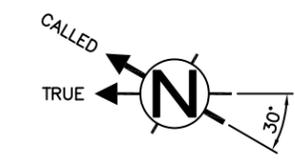
The eastern half of the plant site is rough and irregular with steep slopes and deep-cut stream valleys and drainage courses. Elevations in this portion of the plant site range from about 80 feet above msl to more than 200 feet above msl at the inland of the site. Elevations of about 400 feet above mean sea level occur on the hilltops east and northeast of the site.

There are no railroads or navigable waterways that traverse the exclusion areas for the existing GGNS Unit 1 plant or the proposed new facility location. One county road runs through the GGNS plant site property; Bald Hill Road traverses the exclusion area for the proposed new facility. Bald Hill Road cuts through the south-southeast, south, south-southwest, and southwest sectors of the plant site. The GGNS Unit 1 plant structures and support buildings (with exception of structures at the river), including the Energy Services Center (ESC) building, which includes engineering and training facilities, the site visitor's center, and the GGNS Emergency Operations Facility (EOF), are within the exclusion area for the proposed new facility. There are no other industrial, commercial, institutional, or residential structures in the proposed new facility's exclusion area.

The nearest communities include Port Gibson, MS, approximately 6 miles southeast of the site, Newellton, LA, approximately 12 miles west of the site, and St. Joseph, LA, approximately 13 miles west-southwest of the site.

Transportation infrastructure within the region includes the Mississippi River, U.S Interstate Highway 20, of which a portion lies approximately 28 miles north of the GGNS site, and U.S. Interstate Highway 55, a portion of which lies approximately 40 miles east of the GGNS site. U.S. Highway 65 runs north to south in Louisiana and lies approximately 9 miles to the west of the site, connecting to U.S. Highway 84 approximately 27 miles to the southeast of the site. Figure 2-2 shows the locations of all airports, federal highways and railroads in the area.

Recreational facilities near the site include the Grand Gulf Military Park, which borders a portion of the north side of the property, Lake Bruin State Park, Warner-Tully YMCA Camp and several hunting and fishing clubs.



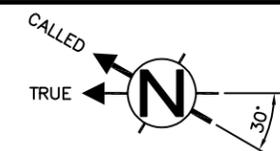
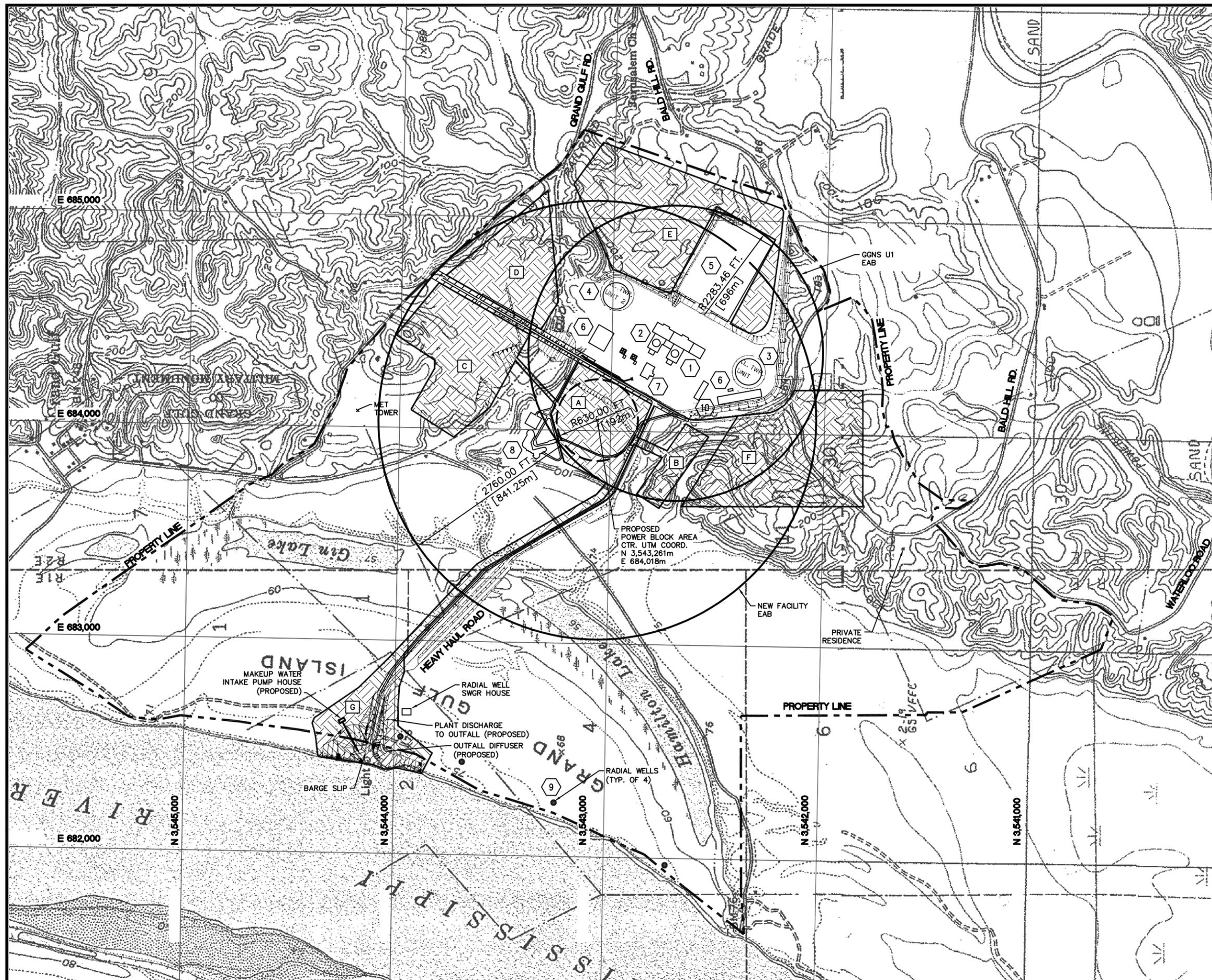
- GGNS BUILDING LEGEND:**
- ① UNIT 1
  - ② UNIT 2 (NOT COMPLETED)
  - ③ UNIT 1 NDCT
  - ④ UNIT 2 NDCT BASIN
  - ⑤ SWITCHYARD
  - ⑥ WAREHOUSE
  - ⑦ ADMINISTRATION BUILDING
  - ⑧ ESC BUILDING
  - ⑨ RADIAL WELLS
  - ⑩ AUXILIARY COOLING TOWER

UTM COORD. GRID SHOWN.

**SOURCE:**  
 USGS TOPO MAP GRAND GULF, MS - LA (1963-1973) AND WIDOWS CREEK, MS - LA (1986 PROVISIONAL)

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 GRAND GULF NUCLEAR STATION SITE  
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PROPERTY BOUNDARY



- GGNS BUILDING LEGEND:**
- ① UNIT 1
  - ② UNIT 2 (NOT COMPLETED)
  - ③ UNIT 1 NDCT
  - ④ UNIT 2 NDCT BASIN
  - ⑤ SWITCHYARD
  - ⑥ WAREHOUSE
  - ⑦ ADMINISTRATION BUILDING
  - ⑧ ESC BUILDING
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**NOTES:**  
 PROPOSED NEW PLANT CONSTRUCTION AREAS.  
 UTM COORD. GRID SHOWN.

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GGNS UNIT 1 AND PROPOSED  
 NEW FACILITY EXCLUSION  
 AREA BOUNDARIES