

**Table J-2.** Key Assumptions Used by the NRC Staff in Assessing Environmental Impacts at the Grand Gulf Early Site Permit Site

Technical Area	Assumption	EIS Section
Land Use	The Grand Gulf ESP site will be wholly contained within the Grand Gulf site.	5.1
Land Use	The construction footprint will align with environmental report Figure 2.1-2.	5.1.1
Land Use	Land-use impacts of any potential transmission line right-of-way upgrade or expansion request will be assessed by the appropriate authority. State or local agency citing procedures will be followed once right-of-way routing is determined.	5.1.2
Land Use	Existing transmission line rights-of-way are 61 m (200 ft) in width.	5.1.2
Land Use	Transmission line upgrades would utilize only existing 500-kV transmission lines and rights-of-way. The 115-kV line is used to supply power to the site from offsite.	5.1.2
Land Use	No significant agriculture, crops, or dairy production are or will be located at or immediately near the Grand Gulf site.	5.1.1
Land Use	No third-party mining activities would be possible at the ESP site.	5.1.1
Land Use	Planned maintenance and refueling outages would be staggered such that only the GGNS Unit 1 or the proposed Grand Gulf ESP facility would be in outage at one time.	5.1.1
Land Use	Salt drift from any cooling tower design would be localized and well below NRC guidance thresholds.	5.1.1
Land Use	Induced housing effects of construction and operations would be dispersed across urbanized areas of southwestern and central Mississippi.	5.1.1
Land Use	The applicant would follow best management practices and would abide by all relevant regulations pertaining to ground-disturbing activities, such as forest and wetlands protection.	5.1.1, 5.1.2

Table J-2. (contd)

Technical Area	Assumption	EIS Section
Meteorology and Air Quality	Meteorological data from the site presented in various tables in the environmental report and request for additional information responses are reasonably representative of the site (except for wind data). Only the wind data for 2001 to 2003 are assumed to be representative.	2.3.3
Meteorology and Air Quality	Air emissions from the Grand Gulf ESP facility would be bounded by those listed in the environmental report.	5.2.2
Meteorology and Air Quality	The applicant would use dust control measures during construction and operation.	4.2.1
Meteorology and Air Quality	If air quality impacts related to transportation occur during construction, the applicant would implement best management practices to minimize the impacts.	4.2.2
Meteorology and Air Quality	Various measures outlined in the environmental report would be followed to limit air quality impacts of construction.	4.2.1
Meteorology and Air Quality	Cooling towers would have drift eliminators that are comparable in effectiveness to the drift eliminators in current generation cooling towers.	5.2.1
Ecology	Upland and bottomland areas of the proposed Grand Gulf ESP site that would be disturbed by construction would undergo a botanical survey prior to initiating such activities.	4.4.1.4
Ecology	A recent description will be provided of the aquatic biota that are in the vicinity of the ESP site and the transmission line rights-of-way prior to or during the CP or COL stage. The description will be consistent with NUREG 1555, Environmental Standard Review Plan, Chapter 2.4.2.	4.4.2, 4.4.3.1, 5.4.2, 5.4.3.1, 7.4
Ecology	The proposed intake system will have screens with a size such that the average intake velocity through the screen would be less than or equal to 0.15 m/s (0.5 ft/s).	5.4.2.1

Table J-2. (contd)

Technical Area	Assumption	EIS Section
Socioeconomics	Per the discussion in the environmental report, the staff assumed that 50 percent of the workforce at the Grand Gulf ESP site would come from the 80-km zone surrounding the plant, with almost all immigrating personnel and families living in Vicksburg, suburban Jackson, and Natchez. The staff also did the impact analysis under the alternative assumption that personnel and families would be distributed the same as the current plant-related population for GGNS.	4.5.2, 4.5.3.1, 4.5.4.3, 4.5.4.4, 5.5.2, 5.5.3.1, 5.5.4.1, 5.5.4.3, 5.5.4.4, 5.5.4.5
Socioeconomics	For the Grand Gulf ESP site, the staff identified two ways in which a new nuclear plant might be treated for property tax purposes under Mississippi tax law, which was assumed to remain the same in the future. If the plant were a merchant plant, it might be taxed as an ordinary taxable business asset, taxable by Claiborne County. The other possibility is that the state of Mississippi might decide to tax the asset instead, and provide some share of the funds back to the county and to the city of Port Gibson. The staff did the analysis both ways.	4.5.3.2, 5.5.3.2, 2.8.2.3
Socioeconomics	The staff relied on SERI's statement in a reply to a request for additional information that it had no plans to restore the former rail spur to the Grand Gulf ESP site. This implies that large items and bulk materials would come in by barge or truck. SERI also said that a rail spur could not be precluded.	2.2.1, 2.8.2.2, 4.5.4.1
Socioeconomics	The staff assumed that if very large groups of families with school-age children moved into Claiborne County, the state of Mississippi would provide some impact assistance to the local school system.	4.5.4.5, 5.5.4.5
Environmental Justice	There are no unidentified and significant pre-existing health conditions or resource dependencies among minority and low-income populations in the region of the Grand Gulf ESP site.	4.7, 5.7
Environmental Justice	The relative geographical locations of concentrations of minority and low-income individuals in the region of the Grand Gulf ESP site as shown in the 2000 U.S. Census are valid at time of CP or COL application.	4.7, 5.7

Table J-2. (contd)

Technical Area	Assumption	EIS Section
Cultural Resources	Cultural resource surveys will be conducted if areas identified in Figure 4-1 in the EIS are selected for construction.	4.6
Cultural Resources	Appropriate cultural resource surveys would be conducted prior to construction of new transmission lines.	4.6
Cultural Resources	Cultural resource-specific written directions will be included in SERI's Excavation and Backfill Work Procedures prior to construction and operation.	4.6, 5.6
Human Health	New transmission lines would be built to current industry and regulatory standards.	5.8.3
Human Health	Appropriate State and local requirements would be considered when assessing the occupational hazard and health risks associated with construction.	4.8.1
Human Health	The staff assumed adherence to NRC, Occupational Safety and Health Administration, and State safety standards, practices, and procedures for operation of new nuclear units.	5.8.5
Human Health	New unit or units are constructed at the location identified in the ER.	4.9
Human Health	Assumptions listed on pages 6-41 and 6-42.	6.2.4
Accidents	Population growth in the vicinity of the site would not alter the population distribution in the region.	5.10.2