

RAS 12729

U.S. NUCLEAR REGULATORY COMMISSION

NRC STAFF EXHIBIT 9

In the Matter of System Energy Resources

Docket No. 52009 ESP Official Exhibit No. Staff 9

OFFERED by: Applicant/Licensee Intervenor **Summary of Issues for Which Cumulative Effects Were Analyzed**

IDENTIFIED on: <u>NRC Staff</u> <u>Impact Area</u> <u>Other</u>	Context	Parameters	Conclusion
Action Taken: ADMITTED REJECTED WITHDRAWN Reporter/Clerk: <u>[Signature]</u>	Existing GGNS; Claiborne County	Land conversion for new workers and services	SMALL: settlement area extends well beyond Claiborne county; therefore, effects are diluted
		Transmission line rights of way	Not Resolved: information on alterations to existing system to accommodate all of proposed generating capacity is lacking
	Air Quality	Construction emissions	SMALL: limited duration emissions occur within an attainment area
		Pollutant emissions from operation	SMALL: same magnitude as existing GGNS
		Plumes from operation	SMALL: same magnitude as existing GGNS
	Water Use and Quality	Surface water use	SMALL: small streams are wholly within site; Mississippi River will remain large with flows regulated by US Army Corps of Engineers
		Groundwater use	Not Resolved: lack of information on incremental drawdown of Catahoula aquifer
		Surface water quality	Not Resolved: lack of information on chemical discharges from ESP facility
		Ground water quality	Not Resolved: lack of information on Catahoula aquifer characteristics and extent of drawdown
	Terrestrial Ecosystem	Loss of important species and habitats from construction	Not Resolved: lack of information on changes to existing transmission rights of way, or clearing of new rights of way, to accommodate full ESP generating capacity
		Loss of important species and habitats from operation	SMALL: same order of magnitude as existing GGNS



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Impact Area	Context	Parameters	Conclusion
Aquatic Ecosystem	Region surrounding GGNS and existing transmission rights of way; existing GGNS	Loss of important species and habitats from construction	SMALL: minimal and temporary impacts
		Loss of important species and habitats from operation	SMALL: Existing GGNS does not take significant water directly from Mississippi River; combined discharge plumes small relative to size of river; chemical makeup regulated by MDEQ under NPDES, which would include cumulative analysis
Socioeconomics	Variably sized region that includes all potential areas of settlement	Physical impacts	SMALL: limited duration
		Demography	LARGE: significant increase in population in some counties
		Social and economic impacts	LARGE beneficial: significant increase in local economies and governmental revenue
		Infrastructure and community services impacts	MODERATE: construction/ expansion of systems would be needed
Historic and Cultural Resources	Variably sized region that includes all potential areas of settlement; existing GGNS	Historic and cultural resources	SMALL: applicant would manage impacts; maintenance would not affect area outside GGNS boundary
Environmental Justice	Variably sized region that includes all potential areas of settlement	Unusual resource dependencies or practices or environmental pathways	SMALL: no unusual dependencies or practices were identified
		Tax revenues	LARGE beneficial: potential significant tax revenue increase for Claiborne County
		Infrastructure and community services	MODERATE: if workers settle heavily in Claiborne County and resulting pressure on infrastructure not compensated by increased tax revenue

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Nonradiological Health	Existing GGNS	Microbial organisms	SMALL: biocides used at GGNS cooling towers; will be used on new facility towers
		Occupational health	SMALL: nuclear industry rates are below national industry rates
		Noise and dust emissions	SMALL: temporary and mitigated
		EMF	Not Resolved: lack of scientific and regulatory consensus on effects of chronic exposure
Radiological Impacts of Normal Operation	Existing GGNS; lifetime exposure; 80-km radius of Grand Gulf ESP site	Public and occupational doses	SMALL: within regulatory limits and standards for workers and at site boundary (maximally exposed individual)
		Radiological emissions	SMALL: within limits set by NRC and State of Mississippi
Fuel Cycle	All users of nuclear reactor fuel in the US	Fuel use by light-water reactor designs	SMALL: based on existing designs and likely improvements
		Fuel use by gas-cooled designs	Not Resolved: lack of information on fuel use by these designs
Transportation	Existing GGNS	Radiation dose to public from unirradiated fuel, spent fuel, and radiological waste from light-water reactor designs	SMALL: within regulatory limits
		Radiation dose to public from unirradiated fuel, spent fuel, and radiological waste from gas-cooled reactor designs	Not Resolved: lack of information on fuel use by these designs
Decommissioning	Existing GGNS	Radiation dose to workers and public, waste management, water quality, air quality, ecological resources, and socioeconomics	Not Resolved: lack of information regarding decommissioning for proposed facility