

In the Matter of System Energy Resources, Inc.Docket No. 52-009 ESP Official Exhibit No. SERI-17OFFERED by: Applicant Intervenor _____

NRC Staff _____

IDENTIFIED on 11/29/00 _____Action Taken: ADMITTED REJECTED WITHDRAWNReporter/Clerk DNGGNS
EARLY SITE PERMIT APPLICATION
PART 3 - ENVIRONMENTAL REPORT

TABLE 6.2-1

RADIOLOGICAL ENVIRONMENTAL SAMPLING PROGRAM

SERI Exhibit 17

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Airborne	<u>Radioiodine and Particulates</u> 1 sample close to the SITE BOUNDARY having the highest calculated annual average groundlevel D/Q.	AS-7 UH (Sector H, Radius 0.5 Miles) – South-southeast of GGNS at the IBEW Union Hall.	Continuous sampler operation with sample collection per 7 days or as required by dust loading, whichever is more frequent.	Radioiodine Cannister – 1-131; 7 days Particulate Sampler – Gross beta radioactivity following filter change, composite (by location) for gamma isotopic; 92 days
	<u>Radioiodine and Particulates</u> 1 sample from the vicinity of a community having the highest calculated annual average groundlevel D/Q.	AS-1 PG (Sector G, Radius 5.5 Miles) – Southeast of GGNS at the Port Gibson City Barn.		
	<u>Radioiodine and Particulates</u> 1 sample from a control location 15 – 30 km (10 – 20 miles) distance.	AS-3 61VA (Sector B, Radius 18 Miles) – North-northeast of GGNS on Hwy 61, North of the Vicksburg Airport.		
Direct Radiation	<u>TLDs</u> An inner ring of stations in the general areas of the SITE BOUNDARY	M-16 (Sector A, Radius 0.9 Miles) – Meteorological Tower.	92 days	Gamma dose; 92 days
		M-17 (Sector C, Radius 0.5 Miles) – South Side, Grand Gulf Road.		
		M-19 (Sector E, Radius 0.5 Miles) – Eastern SITE BOUNDARY Property line, North-northeast of HWSA		



DOCKETED
USNRC

2006 DEC 15 PM 3:16

OFFICE OF THE SECRETARY
RECORDS AND
ADJUDICATIONS STAFF



GGNS
EARLY SITE PERMIT APPLICATION
PART 3 - ENVIRONMENTAL REPORT

SERI Exhibit 17

TABLE 6.2-1 (Continued)

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<u>TLDs</u> An inner ring of stations in the general areas of the SITE BOUNDARY.	M-21 (Sector J, Radius 0.4 Miles) – Near Former Training Center Building on Bald Hill Road M-22 (Sector G, Radius 0.5 Miles) – Former RR Entrance Crossing on Bald Hill Road. M-23 (Sector Q, Radius 0.5 Miles) – Gin Lake Road 50 yards North of Heavy Haul Road on Power Pole. M-25 (Sector N, Radius 1.6 Miles) – Radial Well Number 1. M-28 (Sector L, Radius 0.9 Miles) – Former Glodjo Residence. M-94 (Sector R, Radius 0.8 Miles) – Sector R Near Meteorological Tower.	92 days	Gamma dose; 92 days
	<u>TLDs</u> An outer ring approximately 3 to 5 miles from the site	M-36 (Sector P, Radius 5.0 Miles) – Curve on HW 608, Point Nearest GGNS at Power Pole. M-40 (Sector M, Radius 2.3 Miles) – Headly Drive, Near River Port Entrance.		

GGNS
EARLY SITE PERMIT APPLICATION
PART 3 - ENVIRONMENTAL REPORT

TABLE 6.2-1 (Continued)

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<u>TLDs</u> An outer ring approximately 3 to 5 miles from the site.	M-48 (Sector K, Radius 4.8 Miles) – 0.4 Miles South on Mont Gomer Road on West Side. M-49 (Sector H, Radius 4.5 Miles) – Fork in Bessie Weathers Road/Shafter Road. M-50 (Sector B, Radius 5.3 Miles) – Panola Hunting Club Entrance. M-55 (Sector D, Radius 5.0 Miles) – Near Ingelside Karnac Ferry Road/Ashland Road intersection. M-57 (Sector F, Radius 4.5 Miles) – Hwy 61, Behind the Welcome to Port Gibson Sign at Glensdale Subdivision.	92 days	Gamma dose; 92 days
	<u>TLDs</u> 8 stations in special interest areas such as population centers, nearby residences, schools, and in 1 or 2 areas to serve as controls stations.	M-01 (Sector E, Radius 3.5 Miles) – Across the road from Lake Claiborne Entry Gate. (Special Interest) M-07 (Sector G, Radius 5.5 Miles) – AS-1 PG, Port Gibson City Barn. (Special Interest) M-09 (Sector D, Radius 3.5 Miles) – Warner Tully Y-Camp. (Special Interest) M-10 (Sector A, Radius 1.5 Miles) – Grand Gulf Military Park. (Special Interest)		

SERI Exhibit 17

GGNS
EARLY SITE PERMIT APPLICATION
PART 3 - ENVIRONMENTAL REPORT

TABLE 6.2-1 (Continued)

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<u>TLDs</u> 8 Stations in special interest areas such as population centers, nearby residences, schools, and in 1 or 2 areas to serve as control stations	M-14 (Sector B, Radius 18.0 Miles) – AS-3-61VA, Hwy 61, North of Vicksburg Airport. (Control) M-33 (Sector P, Radius 12.5 Miles) – Newellton, Louisiana Water Tower. (Special Interest) M-38 (Sector M, Radius 9.5 Miles) – Lake Bruin State Park, Entrance Road. (Special Interest) M-39 (Sector M, Radius 13.0 Miles) – St. Joseph, Louisiana, Auxiliary Water Tank. (Special Interest)	92 days	Gamma dose; 92 days
	<u>TLDs</u> Sixteen permanent TLD stations at the protected area boundary (these are in addition to ODCM requirements).	M-61 (Sector D, Onsite) – Protected Area Fence. M-62 (Sector E, Onsite) – Protected Area Fence. M63 (Sector N, Onsite) – Protected Area Fence. M64 (Sector M, Onsite) – Protected Area Fence.		

SERI Exhibit 17

GGNS
EARLY SITE PERMIT APPLICATION
PART 3 - ENVIRONMENTAL REPORT

TABLE 6.2-1 (Continued)

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<u>TLDs</u> Sixteen permanent TLD stations at the protected area boundary.	M-65 (Sector L, Onsite) – Protected Area Fence.	92 days	Gamma dose; 92 days
		M-66 (Sector K, Onsite) – Protected Area Fence.		
		M-67 (Sector J, Onsite) – Protected Area Fence.		
		M-68 (Sector H, Onsite) – Protected Area Fence.		
		M-69 (Sector G, Onsite) – Protected Area Fence.		
		M-70 (Sector F, Onsite) – Protected Area Fence.		
		M-71 (Sector C, Onsite) – Protected Area Fence.		
		M-72 (Sector B, Onsite) – Protected Area Fence.		
		M-74 (Sector Q, Onsite) – Protected Area Fence.		
		M-76 (Sector A, Onsite) – Protected Area Fence.		

SERI Exhibit 17

GGNS
EARLY SITE PERMIT APPLICATION
PART 3 - ENVIRONMENTAL REPORT

TABLE 6.2-1 (Continued)

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<u>TLDs</u> Sixteen permanent TLD stations at the protected area boundary.	M-77 (Sector R, Onsite) – Protected Area Fence.	92 Days	Gamma dose; 92 days
		M-81 (Sector P, Onsite) – Protected Area Fence.		
	<u>TLDs</u> Three TLDs utilized as duplicates at varying locations (these are in addition to ODCM requirements).	M-31 (Sector Varies, Radius Varies) – Duplicate TLD Installed Quarterly at Varying Locations. M-32 (Sector Varies, Radius Varies) – Duplicate TLD Installed Quarterly At Varying Locations. M-60 (Sector Varies, Radius Varies) – Duplicate TLD Installed Quarterly At Varying Locations.		

Seri Exhibit 17

GGNS
EARLY SITE PERMIT APPLICATION
PART 3 - ENVIRONMENTAL REPORT

TABLE 6.2-1 (Continued)

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Waterborne	<u>Surface Water</u> 1 sample upstream.	MRUP (Sector Q – R, Radius 1.8 Miles) – At least 4500 ft upstream of the GGNS discharge point into the Mississippi River to allow adequate mixing of the Mississippi and Big Black Rivers.	92 days	Gamma isotropic and tritium analyses; 92 days
	1 sample downstream.	MRDOWN (Sector N, Radius 1.6 Miles) – At least 5000 ft downstream of the GGNS discharge point into the Mississippi River near Radial Well No. 1.		
	1 sample downstream during a Liquid Radwaste Discharge.	MRDOWN (Sector Q – P, Radius 1.3 Miles) – Downstream of the GGNS discharge point into the Mississippi River near Radial Well No. 5.	366 days	Gamma isotropic and tritium analyses; 366 days
Waterborne	<u>Groundwater</u> Samples from 2 sources.	PGWELL (Sector G, Radius 5.0 Miles) – Port Gibson Wells – Take from distribution system or one of the five wells.	366 days	Gamma isotropic and tritium analyses; 366 days
		CONSTWELL (Sector P, Radius 0.4 Miles) – GGNS Construction Water Well – Taken from distribution system or the well.		

SERI Exhibit 17

GGNS
EARLY SITE PERMIT APPLICATION
PART 3 - ENVIRONMENTAL REPORT

TABLE 6.2-1 (Continued)

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
	<u>Sediment From Shoreline</u>			
	1 sample from downstream area.	SEDHAM (Sector N, Radius 1.6 Miles) – Downstream of the GGNS discharge point in the Mississippi River near Hamilton Lake outlet.	366 days	Gamma isotopic; 366 days
	1 sample from upstream area.	SEDCONT (Minimum of 100 yds) – Upstream of the GGNS discharge point in the Mississippi River.		
Ingestion	<u>Milk</u>			
	1 sample from milking animals within 8 km if milk is available commercially	Currently, no available milking animals within 8 km of GGNS.	92 days when required	Gamma isotopic and I-131; 92 days
	1 control sample (only if indicator exists) >8 km if milk is available.	ALCONT (Sector K, Radius 10.5 Miles) – Located South-southwest of GGNS at Alcorn State University.		

SERI Exhibit 17

GGNS
EARLY SITE PERMIT APPLICATION
PART 3 - ENVIRONMENTAL REPORT

TABLE 6.2-1 (Continued)

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Ingestion	<u>Fish</u> 1 sample in vicinity of GGNS discharge point.	FISHDOWN – Downstream of the GGNS discharge point into the Mississippi River.	366 days	Gamma isotopic on edible portion; 366 days.
	1 sample uninfluenced by GGNS discharge.	FISHUP – Upstream of the GGNS discharge point in the Mississippi River uninfluenced by plant operations.		
	<u>Food Products</u> 1 sample of broadleaf vegetation grown in one of two different offsite locations with highest anticipated annual average ground level D/Q if milk sampling is not performed.	VEG-J (Sector J, Radius 0.4 Miles) – South of GGNS near former Training Center on Bald Hill Road.	92 days when available	Gamma isotopic and I-131; 92 days
	1 sample of similar vegetation grown 15 – 30 km distant if milk sampling is not performed.	VEG-CONT (Sector K, Radius 10.5 Miles) – Alcorn State University south-southwest of GGNS when available, otherwise a location 15-30 km distant.		

NOTES:

1. Data taken from the Grand Gulf Nuclear Station Annual Radiological Environmental Monitoring Program Summary for the reporting period of January – December 2001

Seri Exhibit 17