CLASS VI PERMIT FINANCIAL ASSURANCE DEMONSTRATION

40 CFR 146.85

SHELL U.S. POWER AND GAS
ST. HELENA PARISH SITE

Prepared By:
GEOSTOCK SANDIA, LLC

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1.0 FACILITY INFORMATION

Facility Name: Shell U.S. Power & Gas – St. Helena Parish Site
Two Class VI Injection Wells

Facility Contact: Jason Dupres/U.S. Environmental and Regulatory Lead
150 N. Dairy Ashford Rd, Houston, Texas 77079
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Well Locations: SOTERRA IF 1-1
[redacted]

SOTERRA IT 2-1
[redacted]

Shell U.S. Power and Gas, LLC (Shell) is providing financial responsibility pursuant to 40 CFR 146.85. Shell is using a Surety Bond to cover the costs of corrective action, injection well plugging, post-injection site care and site closure, and emergency and remedial response.

The estimated costs of each of these activities, as provided by a third party by knowledge of industry standards, are presented in Table 1.

Table 1. Cost Estimates for Activities to be Covered by Financial Responsibility.

Activity	Total Cost ($)
Corrective Action	$0.00
Plugging Injection Wells	$665,959
Post-Injection Site Care and Site Closure	$18,500,000
Emergency and Remedial Response	$25,000,000

2.0 ATTACHMENTS

2.1 INJECTION WELL PLUGGING COSTS ESTIMATE – FRIO AND TUSCALOOSA

Injection Well Plugging Costs - Frio and Tuscaloosa

	Frio	Tuscaloosa	Total	Source
Frio Rig Time 7 days at $7,500 per day	$52,500		$52,500	Pricing from Recent Job
Tuscaloosa Rig Time 11 days at $7,500 per day		$82,500	$82,500	Pricing from Recent Job
Supervision: $2,300/day - Frio=11; Tuscaloosa=13	$25,300	$29,900	$55,200	GKS Price Sheet
Rental Tools	$11,000	$17,500	$28,500	Pricing from Recent Job
Evercrete Cement - Frio (404 sx) & Tuscaloosa (88 sx)	$182,251	$39,698	$221,950	Greg Casey Evercrete Estimate
Standard Cement - Frio (40 sx) & Tuscaloosa (76 sx)	$5,000	$9,500	$14,500	Pricing from Recent Job
Pumping Services - Brine	$7,500	$7,500	$15,000	Pricing from Recent Job
Brine	$3,000	$6,300	$9,300	Historical Pricing
Cement Retainer	$9,000	$9,000	$18,000	Pricing from Recent Job
Wireline Services - DTS & BHP	$11,000	$11,000	$22,000	Pricing from Recent Job
Welding Metal Cap and Site Restoration	$3,500	$3,500	$7,000	Pricing from Recent Job
Subtotal	$310,051	$216,398	$526,450	
Contingency - 10%	$31,005	$21,640	$52,645	
Subtotal	$341,057	$238,038	$579,095	
Engineering & Consulting Services	$51,158	$35,706	$86,864	
Total Plugging and Abandonment Cost	**$392,215**	**$273,744**	**$665,959**	

2.2 POST INJECTION SITE CARE (PISC) ACTIVITIES AND SITE CLOSURE COST ESTIMATE

PISC activities for 50 years/Site Closure	USD (MM USD)	Frequency and Comments
VSP	5.0	Can vary but once every 10 years i.e., 5 times over 50 years. 1 MM USD per VSP.
Seismic	5.0	1 to take at the end of the PISC.
Cased Hole Logging	7.5	Annual logging activity for 50 years. This includes mobilization, annual fluid sampling, saturation changes and leak detection behind pipe one annually. Roughly 150000 per year for 50 years.
Removal of Pipeline at Site Closure	1.0	For infield pipeline removal, the estimates are based on the following: 10” line 8 miles 6” lines 8 miles 4” line 1 mile Installation cost in the area assumed $130K/inch/mile. Abandonment cost is typically 4% of the installation cost. Installation cost for infield pipeline comes out to be US $ 17 million Abandonment cost, including removal of manifolds and metering: $1.0 million
Total	**18.5**	**The actual cost might be lower depending on the plume and pressure behavior seen i.e., alternate PISC scenario.**

2.3 EMERGENCY AND REMEDIAL RESPONSE COST ESTIMATE JUSTIFICATION

The Emergency and Remedial Response cost estimate for Shell U.S. Power and Gas, LLC is based upon the following:

- Injection and/or monitoring wells remediation
- Drilling of relief wells in the event of worst case discharge (WCD)
- Pipeline repairs
- Post-Emergency Resettlement

This estimate of $25 million assumes that these hypothetical situations will not occur simultaneously.