Natural State
RENEWABLES

CLASS VI PERMIT FINANCIAL ASSURANCE DEMONSTRATION

40 CFR 146.85

NATURAL STATE RENEWABLES, INC.
Nimbus ARCCS, Inc.
Ouachita County Arkansas

Prepared By:
GEOSTOCK SANDIA, LLC

Revision No. 0
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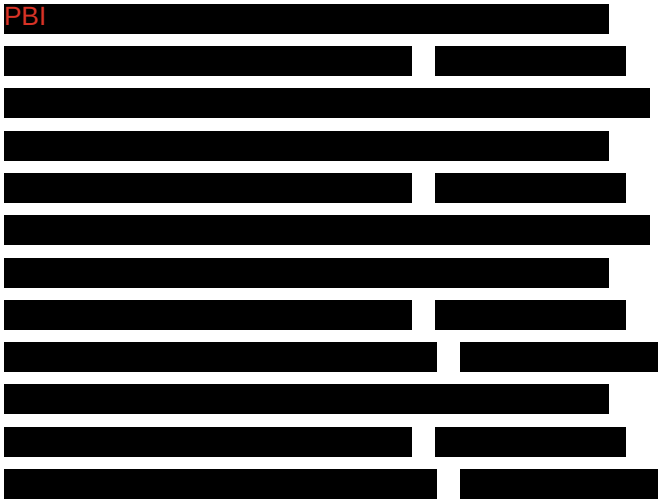
1.0 FACILITY INFORMATION

Facility/project Name: Natural State Renewables Inc.
Nimbus ARCCS Inc.
Class VI Injection Well Nos. 1-4

Facility/project Contact: Clay Marbry, P.E., Senior Vice President, Project Development
Natural State Renewables Inc.
4200 B Stone Road
Kilgore, TX 75662
Office: 903-983-6213

Well Locations: Ouachita County, Arkansas



Prior to issuance of a Class VI injection, Natural State Renewables Inc (NSR) will provide evidence of meeting the Class VI financial responsibility requirements of financial responsibility pursuant to 40 CFR 146.85. NSR is reviewing the extensive guidance published by EPA to determine the best instrument of financial responsibility 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	PBI
Plugging Injection Wells (including 20% contingency)	
Plugging Monitor Wells (including 20% contingency)	
Post-Injection Site Care and Site Closure	$17,500,000
Emergency and Remedial Response	$25,000,000

2.0 ATTACHMENTS

2.1 CORRECTIVE ACTION PLAN COST ESTIMATES

Location of Wells that Require Remediation	Year to be Remediated	Number of Wells	Estimated Remediation Cost per Well	Estimated Final Cost ($M)
PBI				

2.2 INJECTION WELL PLUGGING COSTS ESTIMATE – INJECTION WELLS

Item	Well No. 1	Well No. 2	Well No. 3	Well No. 4	Total
Permitting, Engineering & Consulting Services	[redacted]				
Site Supervision					
Workover Rig (inclusive of mob/demob)					
Rental Tools					
Wireline Logging					
Brine (material & pumping)					
Cement (material & pumping)					
Mud Products					
Welding Services					
Waste Disposal + Site Reclamation					
Subtotal:					
Contingency: 20%					
TOTAL P&A COSTS					

2.3 MONITOR WELL PLUGGING COSTS ESTIMATE – IN-ZONE, ABOVE CONFINING ZONE AND GROUNDWATER

Item	DM-1	DM-2	DM-3	DM-4	SM-1	Total
Permitting, Engineering & Consulting Services	[redacted]					
Site Supervision						
Workover Rig (inclusive of mob/demob)						
Rental Tools						
Wireline Logging						
Brine (material & pumping)						
Cement (material & pumping)						
Mud Products						
Welding Services						
Waste Disposal + Site Reclamation						
Subtotal:						
Contingency: 20%						
TOTAL P&A COSTS						

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

PISC activities for 50 years/Site Closure	Cost Estimate (USD)	Frequency and Comments
VSP	$5,000,000	Can vary but once every 10 years i.e., 5 times over 50 years. 1 MM USD per VSP.
Seismic	$5,000,000	1 to take at the end of the PISC.
Cased Hole Logging	$7,500,000	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.
Total	**$17,500,000**	**The actual cost might be lower depending on the plume and pressure behavior seen i.e., alternate PISC scenario.**

2.5 EMERGENCY AND REMEDIAL RESPONSE COST ESTIMATE JUSTIFICATION

The Emergency and Remedial Response cost estimate for NSR is based upon the completion of the following four (4) activities:

1. Injection and/or monitoring well remediation work
2. Drilling of relief wells in the event of worst-case discharge (WCD)
3. Associated pipeline repair work
4. Post-emergency resettlement efforts

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

Activity	Cost Estimate (USD)	Emergency
Injection and/or monitoring well remediation	$5,000,000	In case of a CO_2 / brine leak via the injector or monitor.
Drilling of relief wells in the event of worst-case discharge (WCD)	$14,000,000	In case of WCD through an injector, monitor or legacy well.
On-site pipeline repair	$3,000,000	In case of a CO_2 leak through a pipeline
Post-Emergency Resettlement	$3,000,000	Settlement and legal claims