FINANCIAL ASSURANCE DEMONSTRATION
40 CFR 146.85

Project Name: Tri-State CCS Buckeye 2

Facility Information

Facility Contact: Tri-State CCS, LLC
14302 FNB Parkway
Omaha, NE 68154
402-691-9500

Well Locations: Jefferson and Harrison Counties, Ohio

Well Name	Latitude (WGS 84)	Longitude (WGS 84)	County
TB2-1	40.52542700	-80.69641700	Jefferson
TB2-2	40.49732800	-80.83907000	Jefferson
TB2-3	40.49763300	-80.71967780	Jefferson
TB2-4	40.45937700	-80.89751600	Jefferson
TB2-5	40.41380300	-80.84988900	Jefferson
TB2-6	40.29706900	-80.83528000	Jefferson
TB2-7	40.29258500	-80.80013900	Jefferson
TB2-8	40.27538400	-80.73308700	Jefferson
TB2-9	40.24805800	-80.71799700	Jefferson
TB2-10	40.22659200	-80.80370600	Jefferson
TB2-11	40.40687700	-80.92462500	Harrison
TB2-12	40.39183000	-80.98459000	Harrison
TB2-13	40.37394700	-80.91794600	Harrison
TB2-14	40.35175500	-81.05526700	Harrison
TB2-15	40.32634200	-80.94335800	Harrison
TB2-16	40.32545800	-80.96751800	Harrison
TB2-17	40.27392800	-80.88990500	Harrison
TB2-18	40.25624300	-80.92103300	Harrison
TB2-19	40.21935400	-80.94936500	Harrison
TB2-20	40.19950300	-80.94510400	Harrison

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List of Acronyms

AoR	Area of Review
CCS	Carbon capture and storage
CO_2	Carbon dioxide
KIC	Knox Injection Complex
MIC	Medina Injection Complex
TBD	To Be Decided
TB 2-(#)	Tri-State CCS Buckeye 2 injection well number
UIC	Underground Injection Control
U.S. EPA	U.S. Environmental Protection Agency

1. Introduction

Tri-State CCS, LLC will provide financial responsibility pursuant to 40 CFR 146.85. Tri-State CCS, LLC is planning to use one of the qualifying instruments listed at 40 CFR 146.85(a)(1) to cover the costs of corrective action, plugging injection wells, post-injection site care, site closure, and emergency and remedial response associated with Tri-State CCS Buckeye 2 in Jefferson and Harrison counties, Ohio (the "project").

Per 40 CFR 146.85(c)(1), Tri-State CCS, LLC contracted with Projeo Corporation (Projeo) to provide an estimate of the costs to the regulatory agency of hiring a third party to perform the project activities described above. To determine the costs for the coverage amounts underpinning this Financial Responsibility Demonstration, Projeo used currently available price quotes (in 2025 dollars) [1] and assumed the hiring of independent, third-party contractors for each Financial Responsibility activity. The estimated costs of each of these activities are presented in Table 1 below, and support for these costs, signed by Projeo, is provided in Appendix B.

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

Activity	Approximate Timeline of Coverage	Cost Estimate
Corrective Action on Legacy Wells	2027-2087	$274,854,818
Injection Well Plugging	2087-2092	$4,530,340
Post-Injection Site Care	2087-2137	$69,886,575
Site Closure	2137	$7,694,430
Emergency and Remedial Response	2027-2137	$35,202,338
	TOTAL	**$392,168,501**

Consistent with U.S. EPA's July 2011 guidance, Tri-State CCS, LLC provides this demonstration of Financial Responsibility with the understanding that the financial instruments referenced herein will be updated and verified over time. As each activity is initiated, Tri-State CCS, LLC will ensure that the coverage limits provided by the respective Financial Responsibility mechanisms are sufficient to cover the corresponding project costs prior to initiating the next project phase. All adjustments will be submitted for approval by the UIC Program Director and prior to any adjustment to the coverage amounts of the financial responsibility instruments.

2. Discussion of Financial Responsibility Activities and Cost Estimates

The costs estimated in Table 1 are based on quotes and technical data available during the permit application development process and are projected to cover the cost of employing an independent third-party subcontractor to perform the services or procurement of requisite goods. These

[1] Costs were derived from quotes in 2024 and updated from 2024 dollars to 2025 dollars using the "Producer Price Index by Industry: Drilling Oil and Gas Wells: Primary Services (PCU213111213111P)". The factor to convert from 01 Jan 2024 to 01 Jan 2025 is 0.9966.

estimates are based upon historic price data from other projects managed by Tri-State CCS, LLC and its project partners, cost quotes from third-party companies, regulatory guidance documents, and a best judgment about the level of effort required to complete an activity.

2.1. Corrective Action on Legacy Wells

Legacy wells that may penetrate the uppermost confining zone are discussed in subsection 4.1.3 of the Area of Review and Corrective Action Plan. An assessment of these wells will be phased prior to and during injection to determine if corrective action is required, with phasing based on the temporal evolution of the critical pressure threshold front and CO_2 plume.

The operating plan for the project is to inject first in the Knox Injection Complex (KIC) for 30 years followed by injection into the Medina Injection Complex (MIC) for 30 years. For the purposes of estimating corrective action costs now, prior to assessment, it is conservatively assumed that all legacy wells that penetrate or may penetrate the uppermost confining zone within the maximum extent of the modeled critical pressure threshold front will require corrective action that involves well plugging with CO_2 compatible cement if the well is within the CO_2 plume or Class H cement otherwise. Legacy wells that penetrate or may penetrate the uppermost confining zone and are between the maximum extent of the modeled critical pressure threshold front and AoR boundary will be monitored to determine if corrective action is needed. For monitoring, a representative selective sampling plan is proposed that assumes downhole sensors will be installed and monitored at two legacy wells that penetrate the upper confining zone per injection well, located based on the plume growth and most recent understanding of the subsurface.

The following summarizes estimated costs, with more detail provided in Tables A-1, A-2, and A-3 of Appendix A. Table 2 provides a summary of corrective action phasing and costs.

- The plugging cost estimate includes locating the well, assessing its status, and plugging the well with the appropriate cement to current standards. A generalized procedure for conducting corrective action is described in the Area of Review and Corrective Action Plan. Estimated costs are as follows:
  - The estimated plugging cost using CO_2 compatible cement is $247,695 per well; and
  - The estimated plugging cost using Class H cement is $106,441 per well.
- The estimated monitoring cost is $31,891 per well.

Based on the conservative assumptions above, the corrective action (plugging and monitoring) cost estimate for all legacy wells is $274,854,818. The number of wells requiring corrective action may decrease based on the future assessment of the status, condition, and depth of each well. As the project progresses and the critical pressure front and the CO_2 plume advance over time, the determination on which wells require corrective action and the timing of the corrective action will be updated.

Table 2. Worst Case Scenario of Wells Requiring Corrective Action, Phased Based on the Temporal Evolution of the CO_2 Plume and Critical Pressure Threshold Front.

Phase	Phase Description	KIC		MIC	Total Wells	Corrective Action Cost
		With Depth Info	Without Depth Info	With Depth Info		
Before injection starts in the KIC	Wells within modeled KIC CO_2 plume at site closure	219	260		479	$118,645,905
8th year of injection in the KIC	Wells between modeled KIC CO_2 plume at site closure and maximum extent of critical pressure threshold front	384	983		1,367	$145,504,847
Before injection starts in the MIC	Wells within modeled MIC CO_2 plume at site closure			14	14	$3,467,730
8th year of injection in the MIC	Wells between modeled MIC CO_2 plume at site closure and maximum extent of critical pressure threshold front			56	56	$5,960,696
Monitoring over life of project	Up to 2 wells per active injector, located between maximum extent of critical pressure threshold front and AoR boundary, with selected wells based on the plume growth and most recent understanding of the subsurface				Up to 40	$1,275,640
					TOTAL	**$274,854,818**

2.2. Plugging Injection Wells

In estimating Financial Responsibility coverage values for injection well plugging, it was assumed that all injection wells would first be converted to in-zone observation wells after cessation of CO_2 injection into the MIC in Year 2087, that these wells would monitor pressure for 5 years post-injection and subsequently be plugged in Year 2092. Injection well plugging is detailed in the Plugging Plan for each well and assumed to fill the entire wellbore with cement. Costs for plugging and abandoning wells are based on regional estimated costs associated with the plugging of oil, gas, and disposal wells. Based on current information, the injection well plugging and abandonment costs are estimated at approximately $226,517 per injection well for a total of $4,530,340 for twenty wells (in Year 2025 dollars). Note that this cost is less than that associated with plugging legacy wells, as the injection wells would have already been completed to Class VI standards.

2.3. Post-Injection Site Care

Tri-State CCS, LLC's activities during the Post-Injection Site Care (PISC) timeframe are discussed in the Post-Injection Site Care and Site Closure Plan. The activities include monitoring for a period of 50 years once injection ceases, on-going well maintenance, periodic reevaluation of the AoR, maintenance of associated facilities, and field personnel costs. For purposes of this estimate, Tri-State CCS, LLC assumed that the PISC activity will begin in 2087 at the ceasing of injection and continue 50 years through 2137. The total Financial Responsibility cost estimate for PISC is $69,886,575 (in Year 2025 dollars), based on industry estimates and independent, third-party engineering data, some of which is based on regional experience with oil, gas, and disposal well site care.

2.4. Site Closure

The Financial Responsibility rules state that the well sites must be returned to original conditions, and the observation wells must be securely plugged and abandoned (P&A). Tri-State CCS, LLC's activities for site closure, including the plugging and abandonment of project wells and site remediation, are detailed in the Post-Injection Site Care and Site Closure Plan. It is assumed that site closure activity will occur in 2137 for this estimate. The total Financial Responsibility cost estimate for site closure (P&A of 31 observation wells at a cost of $179,841/well and removal of 33 well pads at a cost of $64,223/pad, which accounts for shared wellpads) is $7,694,430 (in Year 2025 dollars), based on industry estimates and independent, third-party engineering data, some of which is based on regional experience with oil, gas, and disposal well site closure.

2.5. Emergency and Remedial Response

A leakage scenario could result from a loss of mechanical integrity in the wellbore or a loss of geologic containment in the confining interval. The Financial Responsibility estimate assumed a CO_2 leak from the injection interval due to the loss of mechanical integrity in an injection well. The cost estimate assumed a rapid remedial response and includes the cost of the following:

- Isolating the leak - $10,158,474
- Controlling / Plugging leaky project well - $210,681

- Safely disposing any produced fluids - $69,622
- Drilling a relief well - $6,530,871
- Drilling additional in-zone and above-zone monitoring wells - $18,232,690

The total estimated cost for this emergency and remedial response scenario is $35,202,338.

3. Plan for Financial Mechanisms

Tri-State CCS, LLC intends to demonstrate Financial Responsibility for the project by executing a combination of qualifying instruments. At this time, Tri-State CCS, LLC plans to use a surety bond for financial assurance of the following activities: corrective action, plugging injection wells, post-injection site care, and site closure. Tri-State CCS, LLC plans to use either a surety bond or third-party insurance for financial assurance of emergency and remedial response. Tri-State CCS, LLC will ensure that each instrument comprises the protective conditions of coverage in 40 CFR 146.85(a)(4).

Tri-State CCS, LLC will ensure that any third parties used will have a credit rating in the top four categories from either Standard & Poor's or Moody's, or a comparable rating from another credible credit rating agency. The designated surety bond representative of the Tri-State CCS, LLC, Aon Risk Services Southwest, Inc., identified the following proposed issuer (see Appendix B):

- Hartford Fire Insurance Company: Rated in financial strength as A+ Stable by A.M. Best, A1 Positive by Moody's, and A+ Positive by Standard & Poor's.

The financial mechanisms will provide appropriate assurances to the UIC Program Director of Tri-State CCS, LLC's ability to fulfill its financial responsibilities for the project. Tri-State CCS, LLC will provide the UIC Program Director with any changes to this plan prior to execution of the financial mechanisms and issuance of the Class VI UIC permit to construct.

Appendix A

Table A-1. P&A Legacy Well Using CO_2-Compatible Cement: Corrective Action Costs Per Well.

Item	Cost/well	Comment
Site Preparation & Maintenance	$6,976	Permitting, local road repair, and containment
Engineering & Supervision	$12,258	Six days supervision
Cementing Services	$127,456	CO_2 cement inside production casing to TOC and uphole plugs to intermediate seat
Workover / Completion Fluids & Services	$997	Freshwater based mud for loading hole
Equipment Rentals	$15,447	Workover BOP rental with mob/demob and pad support rentals
Environmental	$3,986	Trucking to dispose of 1000 bbl wastewater
Misc	$1,495	Tophole antiskid fill from surface casing
Specialty Tools & Services	$7,076	BOP rental and pressure pumping to kill well
Safety	$498	Safety inspection
Trucking & Transportation	$1,495	Trucking rental equip on/off pad
Welding	$1,495	Wellhead work
Production Services	$67,719	Workover rig; pumps; run CBL; water handling
Contract Labor	$797	Misc pad support
Total Intangible Cost	**$247,695**	

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Table A-2. P&A Legacy Well Using Class H Cement: Corrective Action Costs Per Well.

Item	Cost/well	Comment
Site Preparation & Maintenance	$6,976	Permitting, local road repair, and containment
Engineering & Supervision	$3,289	One day supervision
Cementing Services	$40,097	2000 ft of Class H Cement from TD to top of Lockport
Workover / Completion Fluids & Services	$997	Freshwater based mud for loading hole
Equipment Rentals	$7,973	Workover BOP rental with mob/demob and pad support rentals
Environmental	$3,986	Trucking to dispose of 1000 bbl wastewater
Misc	$1,495	Tophole antiskid fill from surface casing
Specialty Tools & Services	$7,076	BOP rental and pressure pumping to kill well
Safety	$498	Safety inspection
Trucking & Transportation	$1,495	Trucking rental equip on/off pad
Welding	$1,495	Wellhead work
Production Services	$30,267	Service rig; pumps; run CBL; water handling
Contract Labor	$797	Misc pad support
Total Intangible Cost	**$106,441**	

Table A-3. Cost for Monitoring Activities for Legacy Wells.

Item	Cost/well or survey	Total cost	Comment
Downhole pressure sensors	$31,891	$1,275,640	Up to 2 wells per injector to be monitored between the 30-year injection plume and the AoR for both the KIC and MIC
	Total	**$1,275,640**	

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Table A-4. Plugging injection well.

Item	Cost	Comment
Site Preparation & Maintenance	$6,976	Permitting and local road repair
Engineering & Supervision	$10,464	Six days supervision
Cementing Services	$127,456	CO_2 cement inside production casing to TOC and uphole plugs to intermediate seat
Workover / Completion Fluids & Services	$997	Freshwater based mud for loading hole
Equipment Rentals	$13,952	Workover BOP rental with mob/demob and pad support rentals
Environmental	$3,986	Trucking to dispose of 1000 bbl wastewater
Misc	$1,495	Tophole antiskid fill from surface casing
Specialty Tools & Services	$7,076	BOP rental and pressure pumping to kill well
Safety	$498	Safety inspection
Trucking & Transportation	$1,495	Trucking rental equip on/off pad
Welding	$1,495	Wellhead work
Production Services	$49,830	Workover rig; pumps; run CBL; water handling
Contract Labor	$797	Misc pad support
Total Intangible Cost	**$226,517**	

Table A-5. PISC Testing

Item	Cost
Storage Complex Sensors	$13,155,120
Storage Complex Pulsed Neutron	$30,495,960
DTS	$12,332,925
ACZ Sampling	$2,616,075
UOB Sampling	$4,110,975
ACZ Sensors	$2,790,480
UOB Sensors	$4,385,040
Total	**$69,886,575**

Table A-6. Site Closure

P&A Observation Well: Cost Per Well		
Site Preparation & Maintenance	$6,976	Permitting and local road repair
Engineering & Supervision	$10,464	Six days supervision
Cementing Services	$80,780	CO_2 cement inside production casing to TOC and uphole plugs to intermediate seat
Workover / Completion Fluids & Services	$997	Freshwater based mud for loading hole
Equipment Rentals	$13,952	Workover BOP rental with mob/demob and pad support rentals
Environmental	$3,986	Trucking to dispose of 1000 bbl wastewater
Misc	$1,495	Tophole antiskid fill from surface casing
Specialty Tools & Services	$7,076	BOP rental and pressure pumping to kill well
Safety	$498	Safety inspection
Trucking & Transportation	$1,495	Trucking rental equip on/off pad
Welding	$1,495	Wellhead work
Production Services	$49,830	Workover rig; pumps; run CBL; water handling
Contract Labor	$797	Misc pad support
Sub-Total	$179,841	
Well Pad Removal		
Compost Filter Sock	$6,099	
Slope Matting	$22,424	Hydroseed
Excavation	$25,662	Bulk Cut & Fill
Ditches	$10,038	Diversion & fabric
Sub-Total	$64,223	
Total	**$244,064**	

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Table A-7. Emergency & Remedial Response.

Item	Cost	Comment
Blow out: Injection / observation / legacy well	$6,530,871	Drill one relief well to kill an uncontrolled blowout within or around AoR
CO_2 Migration into USDW	$10,158,474	CO_2 migration into USDW requiring the establishment of a groundwater management zone
Brine / Fluid Spill	$69,622	Clean up and remediation of a brine or fluid spill
Repair Leaking Injection Well	$210,681	
Drill additional above-zone monitor well	$8,103,418	
Drill additional in-zone monitor well	$10,129,272	
Total Cost	**$35,202,338**	

I certify that the cost estimate work for financial assurance was prepared by Projeo

Mary Kathleen Davis, Ph.D., PMP 

Appendix B – Letter from Designated Surety Bond Representative

AON

September 25, 2025

To:
Stephen Jann
Manager, Permits Branch
Water Division
US Environmental Protection Agency Region 5 77 W. Jackson Blvd
Chicago, IL 60604

RE: Financial Assurance on behalf of Tri-State CCS, LLC – Buckeye 2

Aon Risk Services Southwest, Inc., located at 1300 Post Oak Blvd, Houston, TX 77056, serves as the designated surety bond representative for Tri-State CCS, LLC. Tri-State CCS, LLC is in the process of submitting its Financial Assurance Demonstration to the EPA, outlining its plan to comply with the financial responsibility requirements set forth in 40 CFR 146.85. To further clarify Tri-State CCS, LLC's intent to satisfy the EPA's financial assurance requirements, we, Aon, affirm that Tri-State CCS, LLC has identified the following instruments as those it intends to utilize:

Activity	Approximate Coverage Timeline	Cost Estimate	Financial Assurance	Issuer
Corrective Action on Legacy Wells	2027-2087	$274,854,818	Surety Bond	Hartford Fire Insurance Co, or other
Injection Well Plugging	2087-2092	$4,530,340	Surety Bond	Hartford Fire Insurance Co, or other
Post-Injection Site Care	2087-2137	$69,886,575	Surety Bond	Hartford Fire Insurance Co, or other
Site Closure	2137	$7,694,430	Surety Bond	Hartford Fire Insurance Co, or other
Emergency and Remedial Response	2027-2137	$35,202,338	Surety Bond and/or Environmental Insurance	Hartford Fire Insurance Co, or other

Tri-State CCS, LLC decision to issue specific financial assurance instruments is conditioned upon the surety and insurance underwriters' acceptable review of permits, bond forms, financing, and other underwriting criteria and any arrangement for any bonds and/or is a matter between Tri-State CCS, LLC and the carriers, and Aon assumes no liability to third parties or you if, for any reason, we do not issue requested bonds.

Barbara Norton

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By: Barbara Norton
Company: Aon Risk Services Southwest, Inc.