

UIC CLASS VI GEOLOGIC STORAGE OF CO₂ PERMIT APPLICATION

**Loving CCS Hub
Central Loving Facility
Loving County, Texas**

Section 11: Financial Assurance Demonstration Plan (FADP)

[40 CFR §146.82 (a), §146.85]

Prepared for:
**EPA Region 6
Underground Injection Control Section**
1201 Elm Street, Suite 500 | Dallas, Texas 75270



Prepared and submitted by:
Milestone Carbon Delaware CCS Hub, LLC
840 Gessner Rd, Suite 600
Houston, Texas 77024

Prepared by
Petrotek Corporation
5935 South Zang St, Suite 200
Littleton, Colorado 80127

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11.0 FINANCIAL ASSURANCE DEMONSTRATION PLAN (FADP) [CFR 146.82(a)(14) and 146.85]

Milestone is providing financial responsibility pursuant to 40 CFR 146.85 and proposes the use of [REDACTED] to cover the costs of: corrective action, emergency and remedial response, injection well plugging, post-injection site care, routine monitoring/reporting activities, and site closure. In compliance with 40 CFR 146.85(a)(4), these instruments will provide that they may not be cancelled or terminated except due to failure to make payment and, in such event, the cancellation or termination may not be final until 120 days after receipt of cancellation or termination notice mailed to Milestone and the permitting authority. All cost estimates were generated by an independent third party, Petrotek, of Littleton, Colorado.

A high-contrast, black and white image showing a series of horizontal bands. The bands are thick and appear to be composed of multiple layers. The top band is the widest and has a small white rectangular cutout on its right side. Below it is a thinner band. Further down is a very thick band that has a small white rectangular cutout on its left side. The bottom-most band is the widest and has a small white rectangular cutout on its right side. The entire image is set against a black background.

11.2 Corrective Action Plan

The detailed AoR and Correction Action Plan are located in **Section 2** of this permit application.

is required prior to, or during, the course of this project operation or post-closure period. However, in the event wells within the AoR are determined to require correction action, Milestone will demonstrate its financial responsibility for such actions by including the projected costs in the surety bond to be provided as set forth in **Section 11.1.1**. The AoR will be re-evaluated every five (5) years to determine if any new penetrations have occurred and whether such penetrations require corrective action.

[REDACTED] that penetrate the Injection Interval or Top Seal and require corrective action, there are ongoing monitoring activities that require cost estimation. Milestone has assigned a cost to monitoring future permits and possibly plugging and testing heretofore undiscovered wells. Therefore, The Corrective action costs contemplate the low probability future event that a deficient well is permitted by the RRC to drill into the AoR or a historical well is discovered to penetrate the Top Seal or Injection Interval in the future.

11.3 Injection Well-Plugging Program

the project operating cost and is covered within this Financial Assurance Demonstration Plan and proposed surety bond. The specifics of the plugging program can be found in **Section 8** of the permit application. Costs were estimated using work scopes provided by third-party industry experts and comparable actual third-party costs for performance of services and procurement of associated goods.

[REDACTED], including rig mobilization, rig rentals, cementing, logging and haulage. To ensure a conservative estimate, a [REDACTED] was added, and no deductions were made to salvage value of materials.

11.4 Post-injection Site Care (PISC)

PISC and facility closure estimates include site monitoring and periodic reassessment of the AoR, facilities maintenance and power costs, and overhead and support costs. Details of the activities and actions contained in the PISC can be found in permit **Section 9**. The largest element of the PISC cost estimate relates to geophysical surveys which are required to be carried out at 5-year intervals and which are expected to cover an area up to [REDACTED]. The costs in post site care were estimated using scope of works provided by current vendors. The estimates cover mobilization, surveying, processing, land agreements, and interpretation of the data.

11.5 Facility Closure

Facility closure includes the plugging and site reclamation costs for all the monitoring wells including [REDACTED]. It also includes fieldwide removal of surface equipment and remediation of interwell sites and soil or aquifer contamination. Site closure reporting costs are included as in this total well.

11.6 Emergency & Remedial Plan

The Emergency and Remedial Response Plan (ERRP) and associated detailed assessment can be found in **Section 10** of this permit application.

Milestone conservatively estimated costs associated with emergency and remedial response related to each of the emergency events described in **Section 10** (ERRP) of this application, including well integrity failure or loss of mechanical integrity, injection well monitoring equipment failure, a spill, CO₂ or subsurface fluid migration out of the injection zone, damage due to a natural disaster, and damage due to induced seismicity. Most of these emergencies fall under site shut down, Well control or other emergency remedial implementations, mechanical integrity event. The activities related to these

ERRP events, as provided by Milestone, are presented in **Section 10 -Table 10-1 to Table 10-8**. Estimated costs associated with EERP events are shown in **Table 11-6**.

The cost estimates for well integrity failure or loss of mechanical integrity, CO₂ or subsurface fluid migration out of the injection zone, damage due to a natural disaster, and damage due to induced seismicity are conservatively based on a Monte Carlo analysis of the costs associated with a hypothetical worst-case scenario wherein a significant volume of briny water or CO₂ escapes to the surface. The scenario contemplates a reactive response approach – for example – mobilization of response personnel and equipment upon discovery of such an event. This approach is considered appropriate because of the remoteness of the residual risk. Specific post-occurrence action is not determinable until occurrence; thus, actual response to such an event would be based on its severity level. Costs associated with this scenario are intended to account for the outer-limit estimate to satisfy event response. The cost estimate is based on the optimal operating conditions (10 years' operation) requiring outer-limit response and remediation costs.

The cost estimates also account for a scenario in which CO₂ or subsurface fluids migrate and potentially endanger a USDW. The risk of endangerment to USDWs is considered remote and unlikely given the large number of impermeable layers between the injection zone and USDW. However, as part of the reactive response scenario contemplated in the EERP cost estimate, Milestone assessed the specific response actions and cost data to represent the likely impact of such an event on sources of drinking water.

Milestone will utilize its Spill Control and Prevention Plan in combination with the response strategy to minimize this portion of environmental repair. This subsurface migration and USDW endangerment have primary costs related to groundwater delineation and an extended period (10 years) of quarterly monitoring and reporting after emergency remedial actions are taken. The projected cost of emergency and remedial response will be included in the [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The figure displays a 10x10 grid of black and white bars, representing a 2D convolutional feature map. The pattern consists of vertical and horizontal bars of varying widths. A vertical dashed line is positioned on the far left of the grid. The bars are arranged in a staggered, non-overlapping manner, creating a grid-like structure. The overall pattern is a repeating motif of vertical and horizontal bars of different widths, with the vertical dashed line on the left side.

The image consists of a series of horizontal black bars of varying lengths and positions. A vertical black bar is located on the left side. The bars are arranged in a staggered pattern, with some bars extending beyond the frame. The background is white.

11.8 Cost Estimates

Tables in this section provide a detailed estimate, in 2024 (July) dollars, of the cost of performing corrective actions on wells in the AoR, plugging the injection well, post-injection site care, facility closure, and emergency and remedial response. **Table 11-1** is a summary of the cost estimates underlying the FADP document, identifying proposed financial instrument(s) that will provide the appropriate assurance to regulatory agencies of Milestone's intent and ability to fulfill its responsibilities. Petrotek Corporation of Littleton, Colorado, an independent third party, provided the estimates herein.

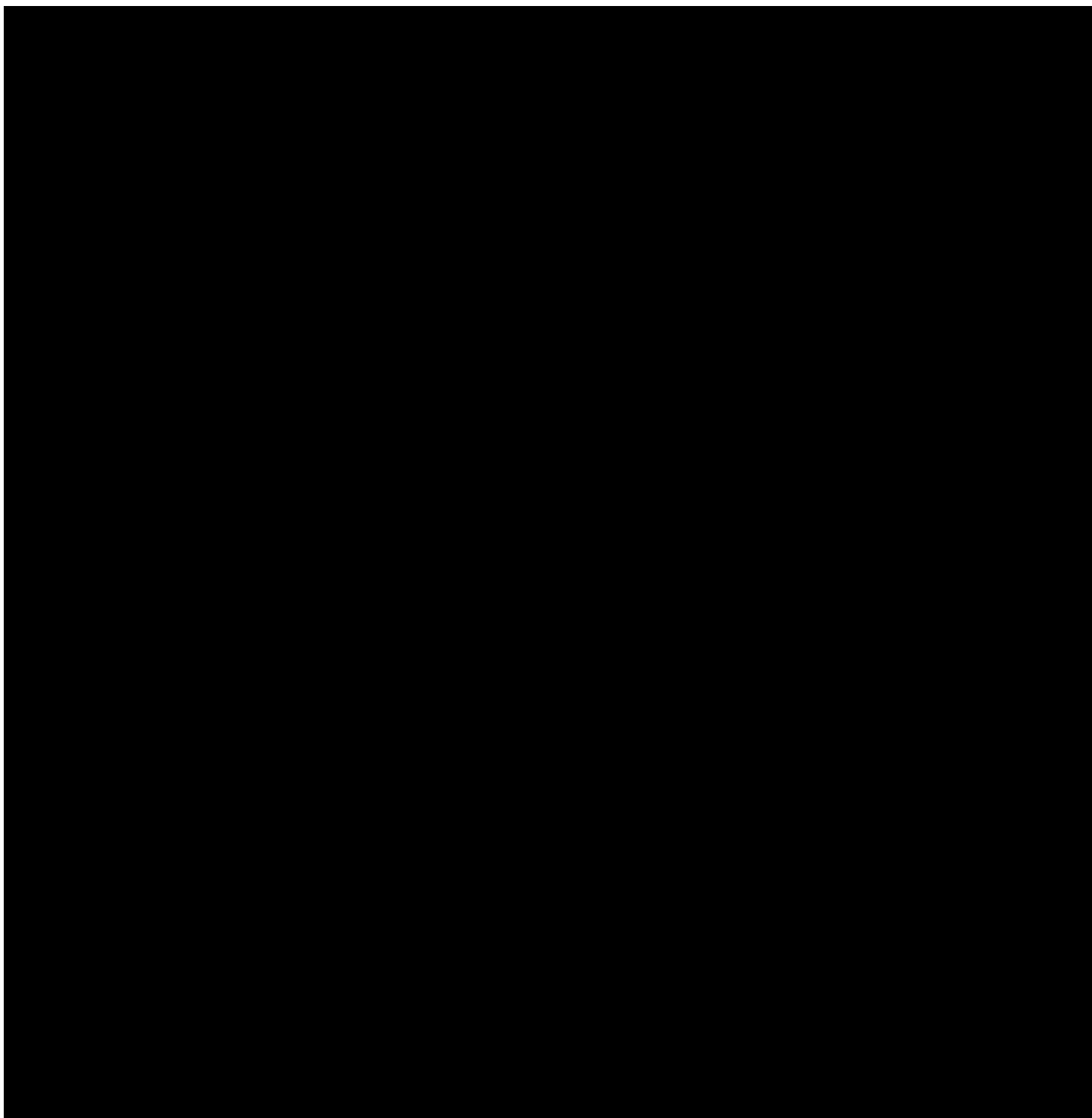
Cost estimates assume that these costs would be incurred if a third party was contracted to perform these activities. For that reason, the estimate includes costs such as project management and oversight, general and administrative costs, and overhead during the post-injection period, (e.g., the use of post-injection seismic surveys). [REDACTED] previously described. These values are subject to change. Additionally, these values are driven by market forces such as changes in oil prices, inflation, contractor availability, materials costs etc. If the cost estimates change, Milestone will adjust the value of the financial instruments, and any adjustment will be submitted for approval as required under 40 CFR §146.85(a)(5).

The total estimated costs of each of these activities, as provided by Milestone, are presented in **Table 11-1**. Detailed estimates for major categories are found in **Table 11-2** to **Table 11-7**.

[REDACTED], there is a non-zero chance that in the future Milestone could be required perform corrective action. Therefore, a cost is provided for this low probability event.

[REDACTED]			
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
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11.9 Update Schedule

Milestone will provide updates on an annual basis to the EPA UIC Director if there are any changes to the Financial Assurance portion of the permit. Milestone will adjust the Financial Assurance within 60 days after changes approved by the Director. Milestone will maintain financial instruments during the review period. If permit sections or cost estimates change regarding area of review and corrective action plan, injection well plugging plan, post-injection site care and or site closure plans, the associated FA section and costs will be updated. Changes with written estimates will be submitted to the UIC Director within 60 days.

If there are no changes, Milestone will submit a letter stating that no changes are needed at this time, except for inflation adjustments.

11.9.1 *Inflation Adjustments*

Milestone will automatically adjust the FA instruments for inflation based on CPI tables for the preceding calendar year. This adjustment will be included in the annual update.

11.10 Duration

Milestone will maintain adequate financial responsibility and renew instruments for the entire duration of the geologic sequestration project until the EPA UIC Director receives and approves a completed post-injection site care and site closure plan and approves the site closure plan.

Milestone may request release of FA obligations if it has completed a phase of the geologic sequestration project for which the financial instrument was required and has fulfilled all its financial obligations as determined by the UIC Director.

11.11 Third Party Instruments

When using a third-party instrument to demonstrate financial responsibility, Milestone will provide a proof that the third-party providers either have passed financial strength requirements based on credit ratings; or has met a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.

11.12 Increases or Decreases

The EPA UIC Director must approve any decrease or increase to the initial cost estimate. During the active life of the geologic sequestration project, Milestone will revise the cost estimate no later than 60 days after the Director has approved the request to modify the area of review and corrective action plan, the injection well plugging plan, the post-injection site care and site closure plan, and the emergency and response plan, if the change in the plan increases the cost. If the change to the plans decreases the cost, any withdrawal of funds must be approved by the Director. Any decrease to the value of the financial assurance instrument must first be approved by the Director. The revised cost estimate will be adjusted for inflation (Section 11.9.1).

Whenever the current cost estimate increases to an amount greater than the face amount of a financial instrument currently in use, Milestone, within 60 days after the increase, will either cause the face amount to be increased to an amount at least equal to the current cost estimate and submit evidence of such increase to the Director, or obtain other financial responsibility instruments to cover the increase. Whenever the current cost estimate decreases, the face amount of the financial assurance instrument may be reduced to the amount of the current cost estimate only after the owner or operator has received written approval from the Director.

11.13 Adverse Financial Conditions

Milestone will notify the EPA UIC Director by certified mail of adverse financial conditions such as bankruptcy that may affect the ability to carry out injection well plugging and post-injection site care and site closure.

Milestone will also notify the EPA UIC Director of any third-party financial instrument providers that are going through bankruptcy by certified mail. Milestone will notify the Director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming Milestone as debtor, within 10 days after commencement of the proceeding.

11.14 Summary

Milestone will employ surety bonds and insurance to meet financial assurance (FA) requirements. Milestone proposes a total FA number of [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Milestone will comply with all state and federal regulations for financial responsibility regarding the geologic sequestration project.