



# **EPA Class VI Program Update**

**Presentation to the  
Kansas Carbon Capture and Underground Storage Forum**

*October 2019*

# Overview of the Class VI Program



- Currently North Dakota is the only state with primacy for the Class VI (GS rule) injection well program
- Wyoming has applied for primacy of the GS rule and the application is currently under review by Region 8 and Headquarters
- Both Louisiana and Arizona have shown interest in obtaining primacy of the GS rule but have not submitted a formal application
- At this time, none of the UIC primacy programs in R7 have shown much interest in obtaining primacy of the GS rule
- EPA has rolled out the GS Data Tool which allows for the electronic submission of Class VI permit applications and is currently working on developing training regarding the use of the GS Data Tool
- At this time EPA is not planning on revisiting the GS Rule

# UIC Primacy Application Process



# Class VI Permit Application: Required Elements



- Site characterization (geologic) information
  - Maps/cross sections, structure, lithology, faults/fractures, geochemistry, hydrology/hydrogeology, USDWs, seismic history
- AoR delineation (details submitted via the Input Advisor) and proposed (and final) corrective action
- GS Project Plans
  - AoR and Corrective Action, Testing and Monitoring, Well Plugging, Post-injection Site Care (PISC) and Site Closure, Emergency and Remedial Response
- Proposed (and final) well construction/specifications
- Proposed (and final) operating plan and pre-injection testing plan
- Financial responsibility demonstration (i.e., cost estimates and instruments)
- Injection depth waiver application and aquifer exemption expansion (if necessary)

*40 CFR 146.82(a) and (c)*

# Class VI Permitting: Stages



Permit application received

Authorization to inject

## 1. Pre-Construction

- Site Characterization
- AoR Modeling
- Financial Responsibility
- Injection Well Construction Plans
- Proposed Operating Data and Pre-Injection Testing
- Proposed Project Plans
- Injection Depth Waivers
- Permit Writing

## 2. Pre-Injection

- Finalize Site Characterization
- Finalize AoR and Corrective Action Status
- Injection Well Construction
- Finalize Project Plans
- Finalize Financial Responsibility
- Verify Appropriateness of Injection Depth Waivers
- Authorize Operation

## 3. Injection

- Operating Data
- Testing and Monitoring
- AoR Reevaluation
- Project Plan Updates
- Financial Responsibility Updates
- Emergency and Remedial Response
- Enforcement and Compliance
- Permit Modification

## 4. Post-Injection

- Injection Well Plugging
- Post-Injection Site Monitoring
- Emergency and Remedial Response
- Project Plan and Financial Responsibility Updates
- Non-endangerment demonstrations
- Site Closure

Permit to construct

# Class VI Permitting Process



Class VI Permit  
Application Submission



- Technical review of permit application information

**Site Characterization Data**

**Proposed Operational Information**

**Proposed Well Construction**

**AoR Delineation and Corrective Action Plan**

**Testing and Monitoring Plan**

**Financial Responsibility Demonstration**

**PISC and Site Closure Plan**

**Injection Well Plugging Plan**

**Emergency and Remedial Response Plan**

# First Steps in a GS Project



- If you plan on pursuing a GS project, talk to EPA or the delegated program manager **before** either submitting an application or drilling a well!

# EPA UIC and Class VI Tools and Resources



- EPA Underground Injection Control Website:  
<https://www.epa.gov/uic>
- EPA CO2 Geologic Sequestration Website:  
<https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-co2>
- Class VI Guidance documents:  
<https://www.epa.gov/uic/class-vi-guidance-documents>
- The GS Data Tool and the Input Advisor:  
<https://epa.velo.pnnl.gov/>



# EPA Class VI Program Contacts



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# 45Q Tax Credit for Carbon Oxide Sequestration



- Provides tax credits to eligible CCUS projects, including carbon oxide disposed of in secure geological storage
- Congress amended 45Q with the 2018 Bipartisan Budget Act (BBA)
- Department of Treasury and IRS “anticipate issuing regulations and other guidance to implement the provisions of 45Q” (IRS Notice 2019-32)

Then	Now
<ul style="list-style-type: none"><li>• Captured <i>carbon dioxide</i> eligible for credit</li><li>• \$20 per ton stored</li><li>• \$10 per ton utilized for EOR</li><li>• Capped at 75 million tons in total</li></ul>	<ul style="list-style-type: none"><li>• Captured <i>carbon oxides</i> eligible for credit</li><li>• Up to \$50 per ton stored</li><li>• Up to \$35 per ton utilized (EOR or other)</li><li>• Credit can be claimed for up to 12 years</li><li>• Projects must start construction before Jan. 1, 2024</li></ul>



**Thanks!**

**Questions and Discussion**