Class VI Underground Injection Control (UIC) Program Implementation and Permitting

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Ground Water Protection Council Meeting

Houston, Texas

January 24, 2012

Class VI Rule Background

- October 2007 – December 10, 2010:
  - Rule Development – Final Rule publication
- December 10, 2010 – September 6, 2011:
  - 270 day primary enforcement responsibility (primacy) application period
- September 7, 2011:
  - EPA directly implements the Class VI Program in all States, Tribes, and Territories
  - All GS permit applicants must submit applications to the EPA (Regions)

Class VI Rule Background

Considerations for GS

- Large Volumes
- Buoyancy
- Viscosity (Mobility)
- Corrosivity

New well class established: Class VI

UIC Program Elements

- Site Characterization
- Area of Review (AoR)
- Well Construction
- Well Operation
- Site Monitoring
- Post-Injection Site Care
- Public Participation
- Financial Responsibility
- Site Closure

Class VI Implementation

- Guidance document development
  - Public participation and environmental justice (final)
  - Financial responsibility (final)
  - Well construction (pending post)
  - Project plan development (pending post)
  - Area of Review and corrective action
  - Site characterization
  - Primacy application and implementation manual

Class VI Implementation

- Guidance document development
  - Testing and monitoring
  - Injection depth waivers
  - Class II – Class VI transition
  - Well plugging, post-injection site care, and site closure
  - Class V experimental technology wells
  - Reporting and recordkeeping

- Technical, subject-specific GS webinars will commence in early 2012

Class VI Implementation

- GS Data System development
  - *10:30 a.m. – 12:00 p.m. session*

- Coordination with
  - EPA Program Offices and Regions
  - State and Federal partners
  - Non-governmental organizations
  - Industry and other stakeholders
  - CCS Presidential Task Force members
  - *9:00 a.m., Wednesday, January 25, 2012 session*

Class VI Permitting: Permit Applications

- Region 5:
  - Archer Daniels Midland: Decatur, Illinois
    - Two Class VI permit applications (CCS #1 and #2) received in December and July 2011, respectively
    - Injection formation: Mount Simon sandstone
    - Proposed injection volume and duration: approximately 4.75 million tons of CO_2 over 5 years
  - Tenaska: Taylorville, Illinois
    - Two Class VI permit applications received in September 2011
    - Proposed injection formation: Mount Simon sandstone
    - Proposed injection volume and duration: 63 million tons of CO_2 over 30 years

Class VI Permitting: Project Discussions

- Region 4:
  - Tampa Electric Company: Polk County, Florida
    - Proposed injection formation: A deep saline formation
    - Proposed injection volume: 300,000 tons of CO_2
    - Proposed injection duration:12-18 months

- Region 5:
  - FutureGen: Illinois
    - Proposed injection formation: Mount Simon sandstone
    - Proposed injection volume: ~1.3 million tons of CO_2 /year
    - Proposed injection duration: ~30 years

- Region 7:
  - Kansas: Sumner County, Kansas
    - Proposed injection formation: Arbuckle saline formation
    - Proposed injection volume: 40,000 tons of CO_2
    - Proposed injection duration: ~1 year

Class VI Permitting: Project Discussions

- Region 8
  - Gordon Creek: Gordon Creek, Utah
    - Proposed injection formation: Navajo sandstone
    - Proposed injection volume and duration: ~1 million tons of CO_2 per year for 4 years (for a total of ~3 million tons)
  - Big Sky: Kevin Dome, Montana
    - Proposed injection formation: Kevin Dome
    - Proposed injection volume: 1 million tons of CO_2
    - Proposed project duration: 8 year project

Additional Information

- Contacts
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- References
  - http://water.epa.gov/type/groundwater/uic/wells_sequestration.cfm
  - http://www.gpo.gov/fdsys/pkg/FR-2010-12-10/pdf/2010-29954.pdf
  - http://www.gpo.gov/fdsys/pkg/FR-2011-09-15/pdf/2011-23662.pdf