

DOGM Class VI Primacy Quest



UIC Well Classes

Class I - Industrial and municipal waste disposal wells. DEQ

Class II - Oil and Gas related injection wells. Three categories: SWD, EOR, Hydrocarbon storage. CO2 EOR can account for a large volume of CO2 sequestration. DOGM

Class III - Used to inject fluids to dissolve and extract minerals. DEQ

Class IV - Shallow hazardous waste wells, banned in 1984.

Class V - Injection of non-hazardous fluids into or above USDWs. Examples: Stormwater drainage drainage, Septic system drainfields, Agricultural drainage wells. DEQ

Class VI - Geologic sequestration of CO2. DOGM seeking primacy to regulate.

Carbon Capture Utilization and Storage (CCUS)

Water vapor is the most abundant greenhouse gas (GHG) in the atmosphere but doesn't trap much heat.

CO₂ is the focus of GHG reduction efforts because its production is so prevalent in human activity and it has a fairly heat-trapping capacity.

Carbon Dioxide comes from both natural and anthropogenic sources.

Most capture is from exhaust gas after combustion.

Direct air capture less efficient, low concentration and needed energy source

Sequestration vs Enhanced Oil Recovery

EPA permitting

EPA Class VI well permit review process has taken about 6 years

- One active injection well
- One well in post injection monitoring phase
- Four never constructed
- All in Illinois, Region 5
- None in Region 8

EPA rules do not address pore space

View CO2 as a waste not as a resource

Primacy states able to speed up the permit process

UIC Primacy

A primacy agency has the primary responsibility for administering and enforcing regulations.

DOGM has primacy over Class II wells and is seeking to obtain primacy for Class VI wells.

Utah Code 40-11 Geologic Carbon Storage:

Grants the Board and Division of Oil, Gas and Mining the authority to make rules and exercise jurisdiction over Class VI injections wells in Utah.

Even with Primacy there are still many regular reporting requirements to the EPA

Current Regulatory Landscape

North Dakota - Primacy obtained in 2018, Oil and Gas division oversight

Has issued 5 facility permits, about 165 hours for permit review, \$10,000.00 plus permit fee

Wyoming - Began primacy process in 2009, primacy obtained in 2020, DEQ

5 applications under review, anticipating another 40 to 60 in the next 2-4 years. Revision to original rules establishes liability to injector rather than poor space owner

Louisiana - Pending, application submitted September 17, 2021

EPA has stated intent to approve, but 42,000 public comments being worked through

Texas, West Virginia and Arizona - Have applied for primacy

Colorado - Has legislative authority to pursue Class VI primacy

Formerly Colorado Oil and Gas Compact Commission (COGCC) now Energy and Carbon Management Commission (ECMC)

Alaska - Legislation passed to pursue Class VI

US Department of the Interior:

Currently developing offshore CCUS rules and program

Canada

No federal oversight of CCUS, programs developed by individual provinces

Alberta in evaluation stage, may be 5 years, estimated 100 billion tonnes of storage capacity

Utah and DOGM current progress

Submitted letter of intent to participate in EPA Class VI state primacy grant program

- 50 million dollars available
- Must incorporate “Environmental Justice” into grant application

Soon to enter a contract with a consulting firm to help draft our primacy application.

Hope to have primacy application prepared and submitted to EPA mid to late 2024

Elements of Utah Rule and Program

Utah's State Rule must be at least as stringent as the EPA regulations. EPA recommends copying verbatim or referencing federal rule as much as possible in order to speed up the EPA primacy review process.

- **Pore Space**
 - Utah 40-6-20.5 Title to pore space. (1) Title to pore space underlying the surface estate is vested in the owner of the surface estate.
- **Financial Assurance and Long-Term Liability**
 - Proper bonding
 - Should go to the injecting operator
 - May require decades long monitoring post injection
 - Financial assurance must cover life of project, plug and abandonment, and post closure monitoring
- **Permit Fee Structure**
 - Mandated by legislation, new to the Utah Oil and Gas permitting program
- **Extensive Site Characterization**
 - Geologic suitability
 - Confining zones and adequate storage space

- **Well Operation**
 - Routine DOGM inspection
 - Pressure limitations
 - Automatic shut-off devices
- **Comprehensive Monitoring**
 - Constant pressure and mechanical integrity monitoring
 - Ground water quality monitoring - during injection and post injection
 - Post injection monitoring up to 50 years or when the site no longer poses a demonstrated threat
- **Reporting requirements**
 - Periodic timeframes for reporting well testing, injection volumes, integrity and pressure monitoring
- **Well Construction**
 - Similar to existing Oil and Gas well rules
 - Corrosion can be an issue (carbonic acid)
- **Area of Review (AoR) and Corrective Actions**
 - Advanced Computational Modeling to determine AoR
 - Corrective actions needed inside AoR