Texas Carbon Dioxide Sequestration Rules

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Texas CO2 Landscape

• Jurisdiction

• Rules
  – Storage with EOR
  – Storage without EOR

• Other incentives
Texas CO2 Jurisdiction - Geologic Storage

- **Railroad Commission**
  - In reservoirs productive of oil, gas or geothermal resources
  - In reservoirs productive of oil, gas, or geothermal resources in the past, or potentially in the future
  - In saline formations above or below such reservoirs
  - Extraction of anthropogenic CO2

- **Texas Commission on Environmental Quality (TCEQ)**
  - In saline formations other than those under RRC jurisdiction

- **Environmental Protection Agency (EPA)**
  - Class VI (for now)
Texas CO2 Rules

- **RRC Rules**
  - RRC underground injection rules for enhanced recovery (16 TAC §3.46)
  - 2010: MOU amended
  - 2010: RRC CO2 rules for geologic storage not associated with enhanced recovery adopted
  - 2011: RRC CO2 rules for geologic storage associated with enhanced recovery adopted
• **Chapter 5 Carbon Dioxide**
  – Subchapter A – General Provisions
  – Subchapter B – Geologic Storage and Associated Injection of Anthropogenic CO2 (Non-EOR)
  – Subchapter C - Certification of Geologic Storage of Anthropogenic CO2 Incidental to Enhanced Recovery of Oil, Gas, or Geothermal Resources (EOR)
Non-EOR CO2 storage rules include all of the same elements as the Class VI federal rules:

- Site characterization
- Area of Review and Corrective Action
- Well construction
- Mechanical integrity
- Monitoring
- Well plugging and Post-injection site care
- Financial security
• **RRC MAY ISSUE A PERMIT IF:**
  
  – No endangerment/injury to oil, gas or other minerals
  – Water protected from CO2 migration or displaced formation fluids
  – No endangerment/injury to human health/safety
  – Reservoir suitable for protecting against escape/migration
  – Applicant meets statutory and regulatory requirements
• USED RRC/STATE RULES WHERE APPROPRIATE:
  – SWR 1 (notice of bankruptcy)
  – SWR 13 (well completion)
  – SWR 14 (well plugging)
  – SWR 46 (Injection well elements)
  – SWR 78 (Financial assurance for wells)
  – Water Well driller regulations for monitor wells completed in USDWs
• **RRC vs EPA RULES**
  - Do not imply more than one confining zone necessary
  - No prohibition on storage above USDWs
  - No down-hole shut-off valve unless offshore
  - External MI testing once every 5 years
  - No default (50-year) post-injection monitoring
  - Phased financial security
  - 5 year (rather than 10 year) record retention
  - A bit more flexibility in other areas
Subchapter C: CO2 Storage Associated with Enhanced Recovery

• Additional 25% decrease in severance tax on oil produced

• Certification of GS of CO2 incidental to enhanced recovery operations for which:
  – there is a reasonable expectation of more than insignificant future production volumes or rates as a result of the injection of anthropogenic CO2; and
  – operating pressures not higher than reasonably necessary for enhanced recovery.
Subchapter C: CO2 Storage Associated with EOR

• Registration for Certification
  – Testing, monitoring, and reporting plan to validate permanent storage
  – May use Subparts RR or UU of 40 CFR Part 98, Mandatory Reporting of Greenhouse Gases: Injection and Geologic Sequestration of Carbon Dioxide
  – Fee of $500 for each EOR facility to be registered

• Annual Certification
  – Operator must provide report detailing results of approved testing, monitoring, and reporting plan
  – Annual certification fee of $0.025 per metric ton of anthropogenic CO2 injected into each registered enhanced recovery facility.
• CO2 Ownership
  – Stored CO2 is property of the storage operator or his heirs, successors, or assigns
  – Unless found to be abandoned, CO2 not the property of the owner of the surface or mineral estate
  – Allows owner to extract anthropogenic CO2

• Trust Fund
  – RRC may assess fees to cover the cost of the program
Texas – Clean Energy Project

• Franchise tax credit – lesser of
  – 10% of total capital cost of project; or
  – $100 million

• Project to construct a coal-, natural gas-, or petroleum coke-fueled electric generating facility, that will:
  – have a capacity of at least 200 megawatts;
  – meet the emissions profile for an advanced clean energy project under 382.003(1-a)(B), H&SC;
  – capture at least 70% of the CO2 resulting from or associated with the generation of electricity by the facility;
  – be capable of permanently sequestering in a geological formation the carbon dioxide captured; and
  – be capable of supplying the CO2 captured for purposes of an EOR project.
Texas – Clean Energy Project

• **RRC issues certificate**
  – Certificate from qualified independent PE that project is operational and meets requirements
  – Contract with BEG

• Only 3 projects, one of which may be a natural gas project

• No tax credit before September 1, 2018
Texas – Offshore CO2 Repository

• **TCEQ**
  – Rules for location, construction, operation and monitoring

• **Land commissioner**
  – Contracts with BEG to identify potential locations
  – Annual report

• **School Land Board**
  – Makes final determination of suitable locations
  – Contracts for construction or operation
  – Acquires title to CO2

• **BEG**
  – Performs measurement, monitoring and verification
  – Reports to Land Board
Texas – CO2 Landscape

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