

## The Texas Edge: SB 1387– Framework for Geologic Storage

By Darrick Eugene  
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## Texas Developments

- ▶ The Need for GS Legislation
- ▶ Guiding Principles in drafting Legislation
- ▶ Do No Harm Provisions
- ▶ Preserving Primacy Provisions
- ▶ Other Provisions
- ▶ Study Provisions
- ▶ Rulemaking and Implementation

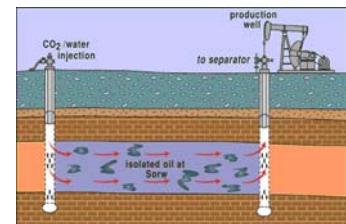
## The Need for GS Legislation

- ▶ Proposed GS Rules published – July 2008
- ▶ Address regulatory uncertainty
- ▶ Market developments
  - Tenaska Trailblazer plant
  - Conoco/Phillips Sweeny Gasification Project
  - Eastman TXE Carbon Management & Gasification Project
  - NRG Carbon Capture and Demonstration Project

## Guiding Principles



## Enhanced Oil Recovery



- ▶ Do no harm
  - Protect EOR business as usual
- ▶ Allow conversion
  - After operations
  - During operations
- ▶ Concurrent EOR & storage
  - Avoid creating artificial barriers

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## Guiding Principles

- ▶ Give sources/utilities a method of meeting “future” compliance obligations
- ▶ Preserve “primacy” options
- ▶ Establish regulatory framework to govern injection and storage of anthropogenic CO<sub>2</sub>
- ▶ Streamline regulatory oversight under single agency (preferably Railroad Commission of Texas)

## Jurisdiction

- ▶ Express jurisdiction granted to the RRC for:
  - Injection of CO<sub>2</sub>a in connection with oil & gas recovery
  - Injection into depleted fields
  - Saline formations above or below fields listed above (“stacked storage”)
  - Jurisdiction over stacked storage evaluated in Study
- ▶ Silent on jurisdiction over injection into non-productive saline formations
  - By default remains with TCEQ under UIC Class I

## Do No Harm Provisions

- ▶▶ Protect existing EOR Operations

## Do No Harm Provisions

- ▶ Definition of Anthropogenic Carbon Dioxide

“does not include naturally occurring carbon dioxide that is recaptured, recycled, and reinjected as part of enhanced recovery operations.”

- Definition of “Geologic Storage Facility”

“The storage of carbon dioxide incidental to or as part of enhanced recovery operations does not in itself automatically render a facility a geologic storage facility.”

## Do No Harm

- ▶ Applicability

“This subchapter does not apply to the injection of fluid through the use of a Class II injection well as defined by 40 C.F.R. Section 144.6(b) for the primary purpose of enhanced recovery operations.”

## Do No Harm

- ▶ Conversion of wells

“A conversion of an anthropogenic carbon dioxide injection well from use for enhanced recovery operations to use for geologic storage is not considered to be a change in the purpose of the well.”

## Preserving “Primacy”

- » Enable the state to obtain Primary enforcement authority

## Preserving “Primacy”

- ▶ Under the federal UIC program states may seek primary enforcement authority
- ▶ Will the EPA proposed rules (Class VI) follow the same pattern?
- ▶ How will states implementing GS laws maintain consistency with EPA proposed rules?

## Preserve “Primacy”

- ▶ RRC charged with developing the following rules for GS:

- (A) geologic site characterization;
- (B) area of review and corrective action;
- (C) well construction;
- (D) operation;
- (E) mechanical integrity testing;
- (F) monitoring;
- (G) well plugging;
- (H) postinjection site care;
- (I) site closure; and
- (J) long-term stewardship;

## Preserve “Primacy”

- ▶ Consistency with Federal rules

Sec. A27.048, AACONSISTENCY WITH AND IMPLEMENTATION OF FEDERAL REQUIREMENTS.

(a) Rules adopted by the railroad commission under this subchapter must be consistent with applicable rules or regulations adopted by the United States Environmental Protection Agency or another federal agency governing the injection and geologic storage of anthropogenic carbon dioxide.

(b) If rules or regulations adopted to govern the geologic storage and associated injection of anthropogenic carbon dioxide under the federal Safe Drinking Water Act (42 U.S.C. Section 300f et seq.) or another federal statute allow this state to seek primary enforcement authority under the underground injection control program:

(1) the railroad commission shall seek primacy to administer and enforce the program subject to the jurisdiction granted under this subchapter; and

(2) this state shall seek primacy to administer and enforce the program for the geologic storage of carbon dioxide in, and the injection of carbon dioxide into, a saline formation.

## Other Provisions

- » Unique Provisions
- » Standard Provisions

## TCEQ “Water Board” Letter

- ▶ Continuation of requirement under existing state UIC program
- ▶ Reciprocal letters from RRC and TCEQ
- ▶ TCEQ Determination
  - Owner not injecting into freshwater
  - Owner is not injuring freshwater
- ▶ Strengthened review requirement

## Permit Requirements

- (1) that the injection and geologic storage of anthropogenic carbon dioxide will not endanger or injure any oil, gas, or other mineral formation;
- (2) that, with proper safeguards, both ground and surface fresh water can be adequately protected from carbon dioxide migration or displaced formation fluids;
- (3) that the injection of anthropogenic carbon dioxide will not endanger or injure human health and safety;
- (4) that the reservoir into which the anthropogenic carbon dioxide is injected is suitable for or capable of being made suitable for protecting against the escape or migration of anthropogenic carbon dioxide from the reservoir; and
- (5) that the applicant for the permit meets all of the other statutory and regulatory requirements for the issuance of the permit.

## Standard Provisions

- ▶ Ownership of injected CO<sub>2</sub>
  - By default injected CO<sub>2</sub> owned by the injector
- ▶ Anthropogenic Carbon Dioxide Storage Trust Fund
  - In addition to other uses money can be used for training and technology transfer
- ▶ Extraction of Stored CO<sub>2</sub>

## Study Provisions

- ▶▶ Regulatory Situs of Saline Injection Capacity on State-owned Land

## Study of GS Capacity on State owned land

- ▶ Lead: Texas General Land Office
- ▶ Identify GS capacity on state-owned land including state-owned submerged land
- ▶ Propose a regulatory framework
- ▶ Recommendations for additional legislation (if any)
- ▶ Identify legal/regulatory issues with split estates

## Study of GS in Saline Formations

- ▶ Lead: TCEQ & RRC in consultation with Bureau of Economic Geology
- ▶ Analyze the requirements for injection and storage into saline formations
- ▶ Recommend a permitting process and the agency or agencies that should have jurisdiction over injection and storage into saline formations
- ▶ Assess the status of compliance with Federal Rules

## Study of GS in Saline Formations - Cont'd

- ▶ Recommendations for mitigating negative effects of Federal GHG Mandatory Reporting Requirement on producers of natural CO<sub>2</sub>
- ▶ Examination of subsurface trespass
- ▶ Examination of property rights acquisition and long-term liability

## Rulemaking and Implementation

- ▶ Implementation of storage with incidental production (Class IIb) by March 1, 2010
- ▶ Implementation of concurrent/incidental storage by September 1, 2010
- ▶ Ad hoc stakeholder group met during summer of 2008 and submitted input to RRC
- ▶ Draft rules available for informal comment in December

## Questions?

Darrick W. Eugene  
General Counsel  
Texas Carbon Capture  
& Storage Association  
(512)423.4266  
deugene@txccsa.org  
1005 Congress Ave., Austin, Tx. 78701  
[www.txccsa.org](http://www.txccsa.org)