

# Carbon Dioxide Injection in Kansas

Kansas Geological Survey  
Field Conference  
June 4, 2010

*KCC-Conservation Division*

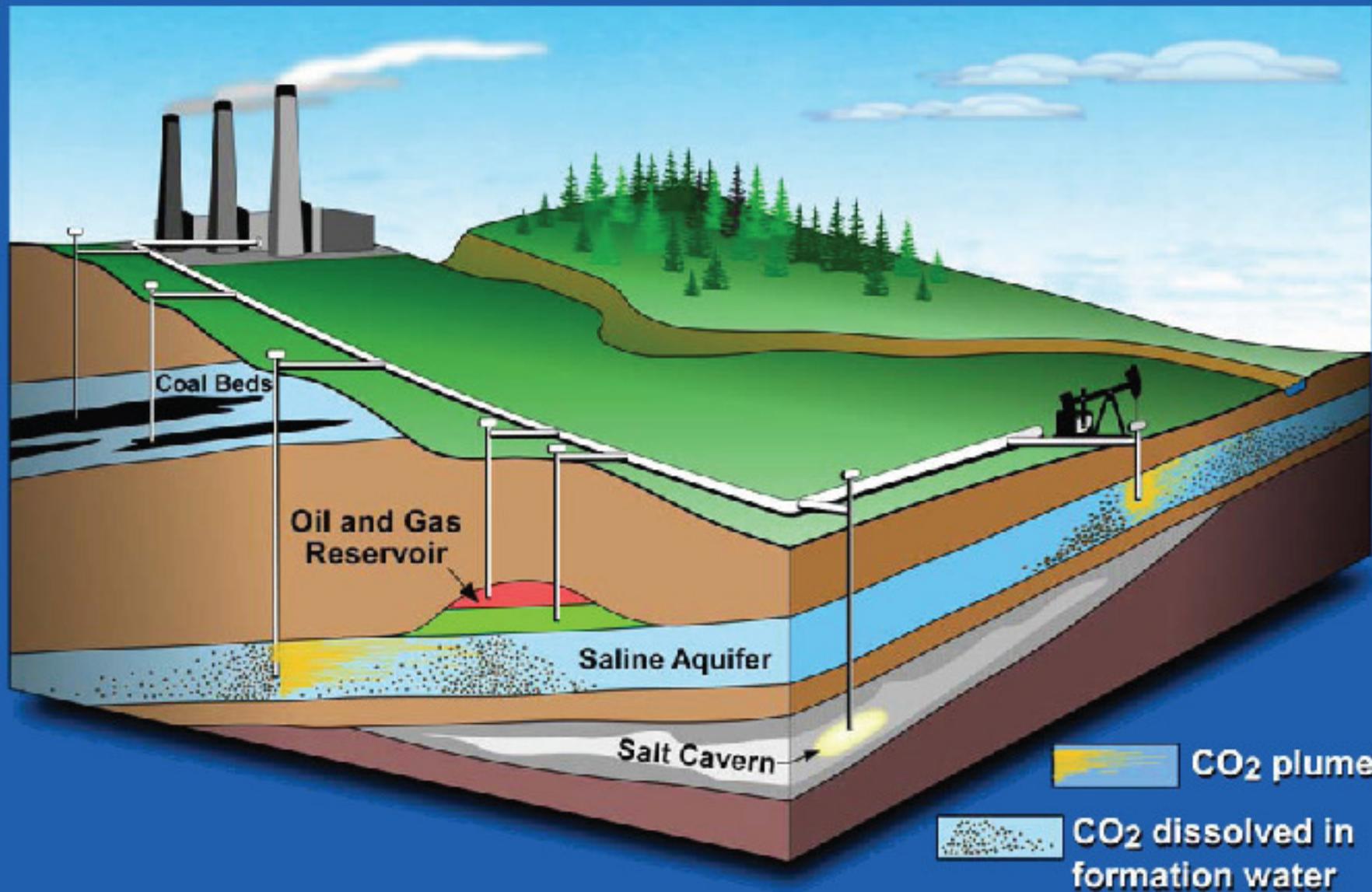
*Doug Louis*

*Director*

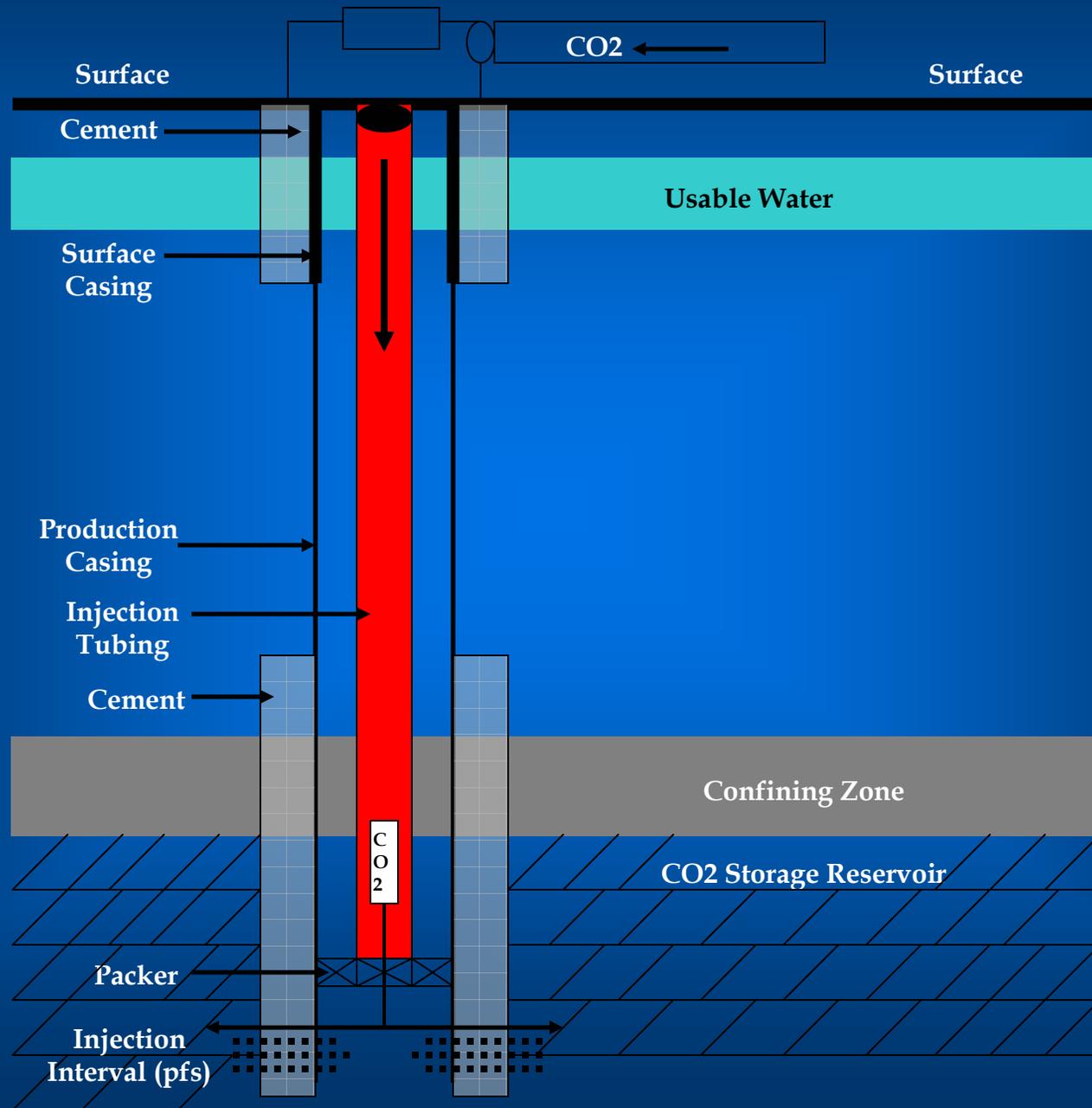
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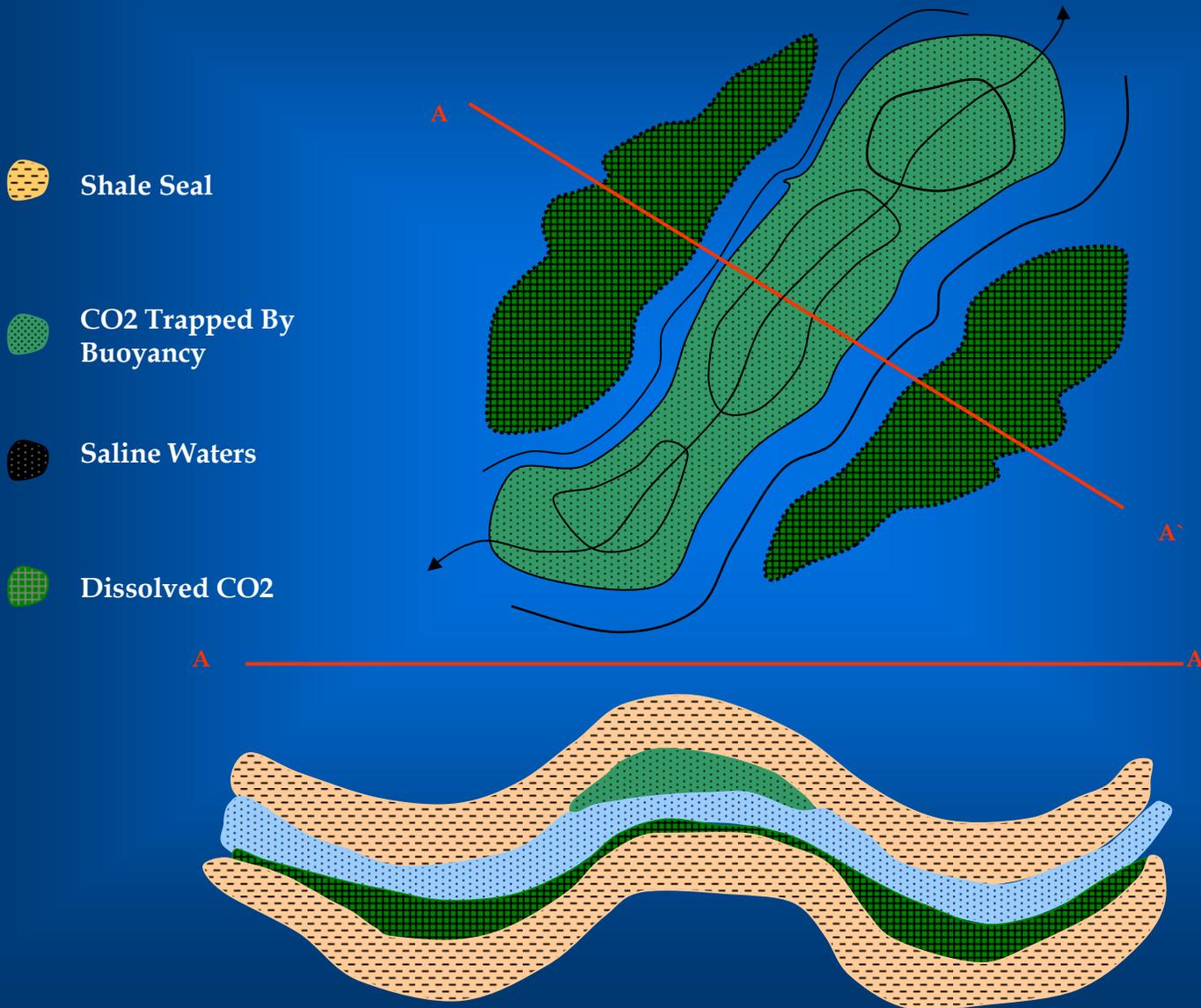
# Means of CO<sub>2</sub> Geological Storage



# IDEALIZED DIAGRAM OF A CO2 INJECTION WELL



# Structure Trap with Dissolution



# Carbon Dioxide Storage

## Introduction

Sequestration vs. Enhanced Oil Recovery, (EPA Class VI vs. Class II Injection Wells)

House Bill 2419 passed in the 2007 legislative session. House Bill 2418 passed in 2010 session amended long-term liability. (Statutes 55-1636 thru 55-1640)

HB 2419 directed the KCC to adopt rules and regulations establishing:

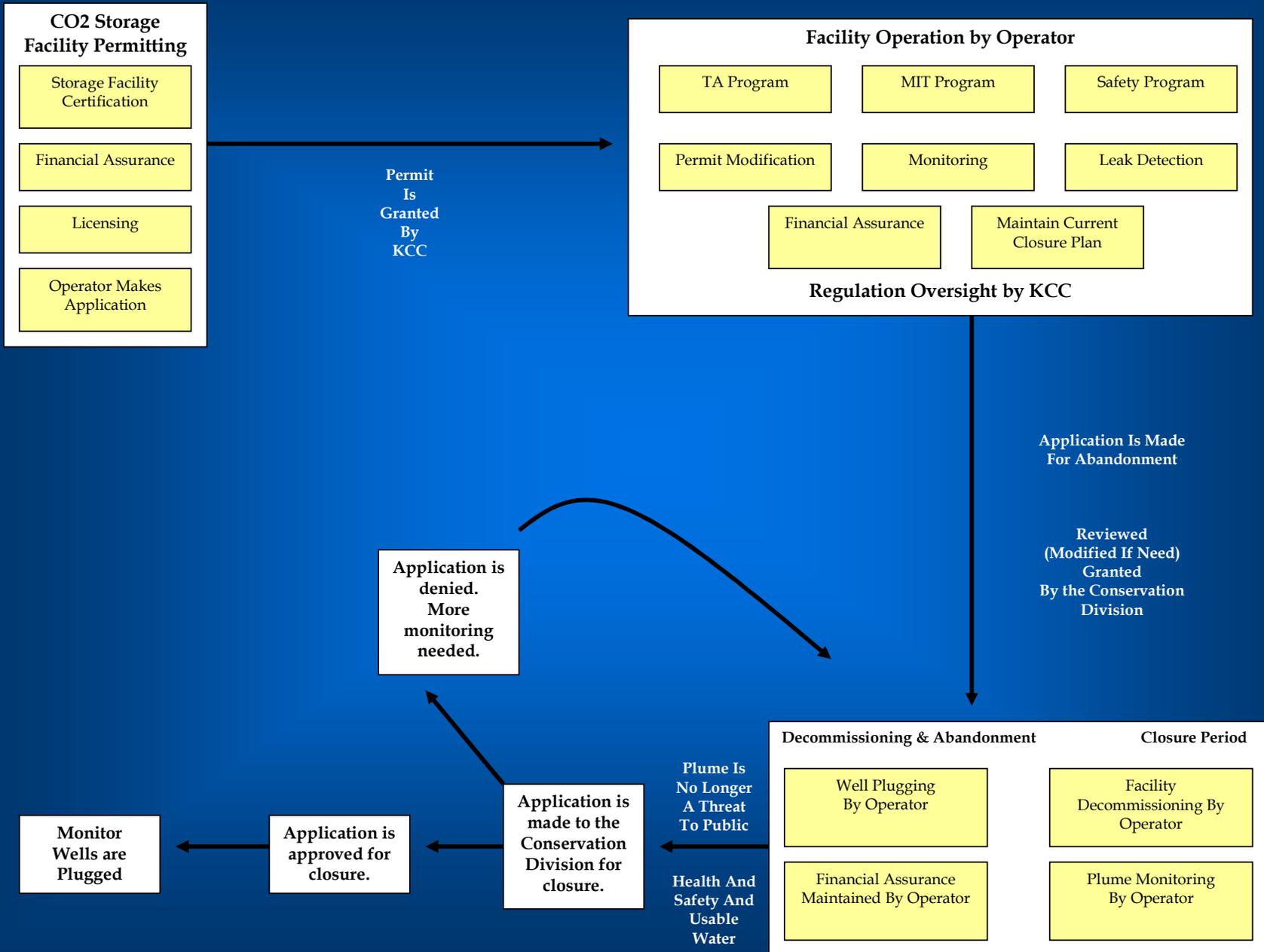
Requirements, procedures, and standards for the safe and secure injection of carbon dioxide and maintenance of underground storage of carbon dioxide.

Specifically, the rules must address:

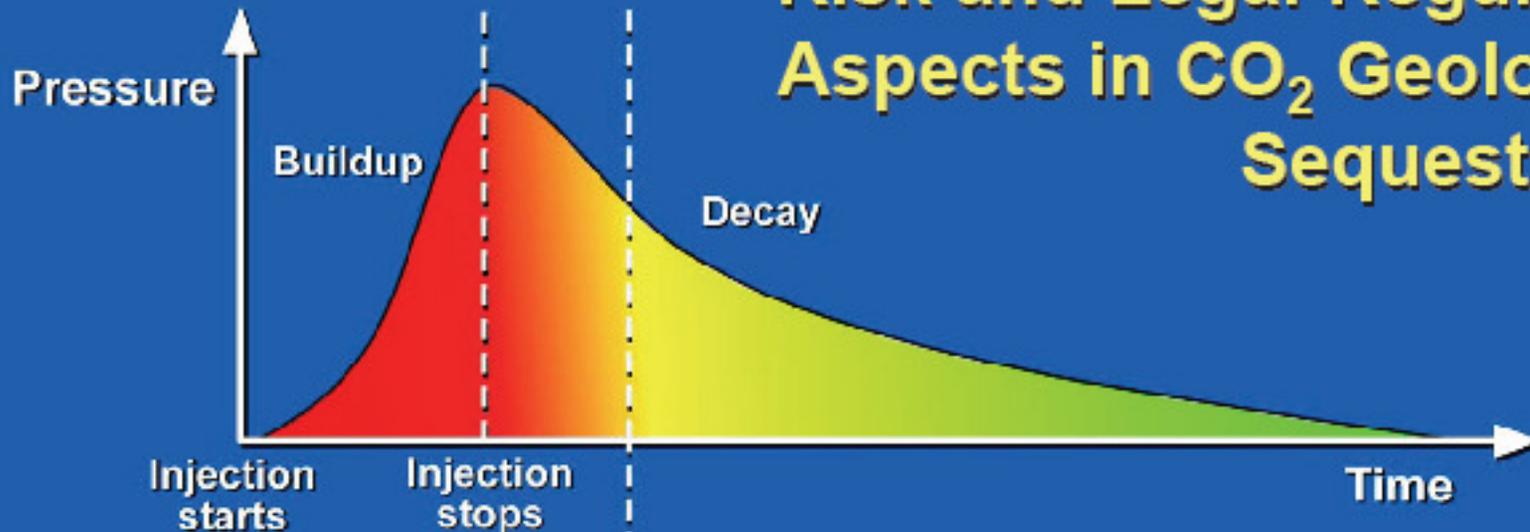
1. Site selection criteria,
2. Design and development,
3. Operation criteria,
4. Casing requirements,
5. Monitoring and measurement requirements,
6. Safety requirements,
7. Closure and abandonment requirements,
8. Financial assurance, and
9. Long-term monitoring.

House Bill 2419 also provided for income tax reductions and property tax exemptions for carbon dioxide capture, sequestration or utilization machinery and equipment.

# KCC REGULATORY ACTIVITIES FOR CO2 STORAGE



# Relation between Pressure Behavior, Risk and Legal-Regulatory Aspects in CO<sub>2</sub> Geological Sequestration



Operational Period	<b>Active</b>	Closure	Post-Closure
Trapping Mechanism Dominance	Primary	Increasingly Secondary	
Risk	<b>Increasing</b>	Decreasing	
Monitoring Frequency & Resolution	<b>High</b>	Targeted	Decreasing
Liability	Operator and /or Emitter		State Agency

# Status Of State Regulations

- Public Meeting before the Commission March 26, 2009.
- Commissioners held Open Meetings July, September and October 2009 to discuss the regulations. In the October 2, 2009 Open Meeting the Commissioners approved staff's changes to delete the states long-term liability.
- Staff Submitted changes to the Department of Administration October 7, 2009, with approval on October 23, 2009.
  - Another public hearing was held on January 6, 2010.
- The Commission subsequently voted to adopt the regulations.

# States & Provinces Currently Developing Regulatory Systems Using IOGCC Model Legislation & Regulations

-Alaska

-California

-Illinois

-Indiana

-Kansas

-Michigan

-Montana

-New Mexico

-New York

-North Dakota

-Ohio

-Oklahoma

-Texas

-Utah

-Virginia

-Washington

-West Virginia

-Wyoming

-Alberta

-British Columbia

-Nova Scotia

-Saskatchewan

# EPA MILESTONES OF PROPOSED RULE MAKING FOR GEOLOGIC SEQUESTRATION OF CO<sub>2</sub>

ACTIVITY	MILESTONE
Data Collection and Analysis	Ongoing
Two Stakeholder Meetings	December 2007/ February 2008
Interagency Review of Proposed UIC Rule	July 2008
Public Comment Period for Proposed Rule	July-October 2008
Notice of Data Availability	October 2009
Final UIC Rule for GS of CO <sub>2</sub>	Late 2010/Early 2011

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