



Overview of the IOGCC Phase II Carbon Capture and Geological Storage Regulatory Task Force

Energy & Telecommunications
Interim Committee Meeting
October 4 & 5, 2007 (Colstrip)

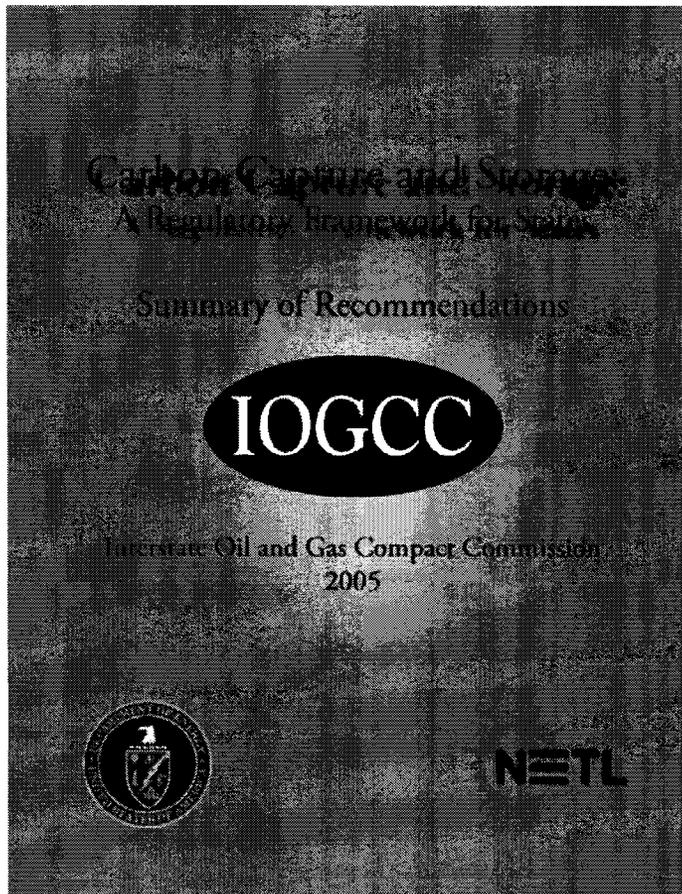
Exhibit #10

Task Force Objectives

- 1. Creation of a nationwide guidance document, approved by the IOGCC, which is specific enough to enable each state to develop its own statutes and regulations while at the same time helping to lay the essential groundwork for a state-regulated, but nationally consistent, “cradle to grave” system for the capture and geologic storage of CO₂.**
- 2. Provide assistance to Regional Partnership Pilot Projects in (a) understanding and complying with regulatory requirements for field testing and injection; and (b) work with member state in implementing draft model laws and regulations and assessing adequacy of those laws and regulations.**



Brief Summary of Phase I Work and Recommendations



- Industry and states have 30 years experience in the production, transport and injection of CO₂.
- States have necessary regulatory analogues in place to facilitate development of a comprehensive CCGS regulatory framework.
- CO₂ should be regulated as a commodity to allow the application of oil and gas conservation laws which will facilitate development of storage projects.
- Involve all stakeholders including general public in the development of regulatory frameworks.

Phase II Task Force Participants

Bengal, Lawrence E., Chairman
Director
Oil and Gas Commission of Arkansas

Anderson, A. Scott
Senior Policy Advisor
Environmental Defense, Austin

Bachu, Stefan, Ph.D., P.Eng.
Senior Advisor
Alberta Energy and Utilities Board

Baza, John R.
Director
Utah Department of Natural Resources
Division of Oil, Gas & Mining

Bliss, Kevin
Task Force Coordinator
IOGCC Washington Representative

Braxton, Lowell
Consultant
Interstate Oil and Gas Compact Commission

Carr, Timothy R.
Petroleum Research Section Chief,
Kansas Geological Survey

Coddington, Kipp
Partner
Alston & Bird Law Firm, Washington, DC

Coombs, Mary Jane
Research Coordinator
California Institute for Energy & Environment
University of California
Office of the President
*West Coast Regional Carbon Sequestration
Partnership (WESTCARB)*

Cooney, David Jr.
Environmental Affairs Attorney
Railroad Commission of Texas

Curtiss, David K.
Manager of International Strategy and
Development / Senior Advisor to the Director
Energy & Geoscience Institute
University of Utah
*Southwest Regional Partnership on Carbon
Sequestration*

Drahovzal, James A, Ph.D.
Geologist and Section Head
Kentucky Geological Survey
*Midwest Regional Carbon Sequestration
Partnership (MRCSP)*

Esposito, Dr. Patrick
Chief Executive Officer
Augusta Systems
*Southeast Regional Carbon Sequestration
Partnership (SECARB)*



Work Force Participants

Fesmire, Mark E., PE

Director
New Mexico Oil Conservation Division
NM Energy, Minerals and Natural Resources
Department

Finley, Robert J.

Director
Energy and Earth Resources Center
Illinois State Geological Survey
*Midwest Geological Sequestration Consortium
(MGSC)*

Harju, John

Associate Director for Research
Energy & Environmental Research Center
University of North Dakota
Plains CO2 Reduction (PCOR) Partnership

Hansen, Christine

Executive Director
Interstate Oil & Gas Compact Commission

Helms, Lynn

Director
Department of Mineral Resource
North Dakota Industrial Commission

Lawrence, Rob *

Senior Policy Advisor-Energy Issues
U.S. Environmental Protection Agency
Region 6 Office, Dallas, Texas

Mankin, Charles

Director/State Geologist
Oklahoma Geological Survey

Melzer, Stephen

Consulting Engineer
Melzer Consulting

O'Dowd, William

Project Manager
National Energy Technology Laboratories

Patchen, Douglas G.

Chief Geologist
West Virginia Geological Survey

Perkowski, Joseph C.

Manager
Energy Initiatives
Idaho National Laboratory
Big Sky Carbon Sequestration Partnership

* Observer



Work Force Participants

Rogers, Marvin

Legal Counsel

State Oil and Gas Board of Alabama

Salzman, Stephen D. *

Deputy Division Chief, Fluid Minerals

Bureau of Land Management

Headquarters, Washington, DC

Smith, Mike

Attorney at Law

Dunlap, Coddling & Rogers Law Firm

Oklahoma

Stettner, Michael D.

Sr. Oil and Gas Engineer

California Division of Oil & Gas and Geothermal

Resources

Taylor, Cammy

Petroleum Land Manager

Division of Oil and Gas

Alaska Department of Natural Resources

Tew, Berry H. (Nick)

State Geologist/Oil & Gas Supervisor

Geological Survey of Alabama

State Oil and Gas Board of Alabama

Williams, Michael L.

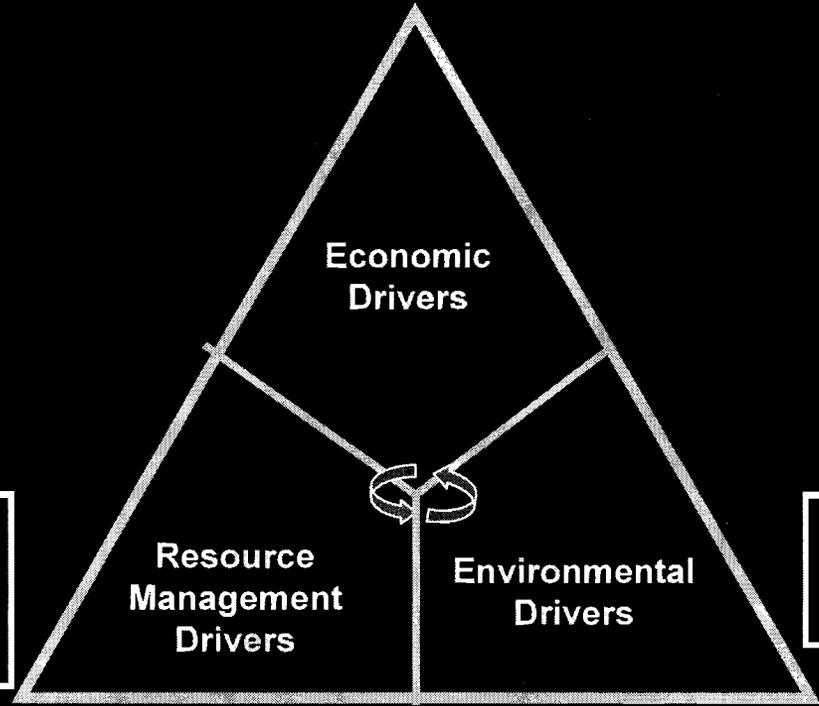
Chairman

Texas Railroad Commission

* Observer



REGULATORY FRAMEWORKS



ENVIRONMENTAL
AND
RESOURCE
PROTECTION

CCS

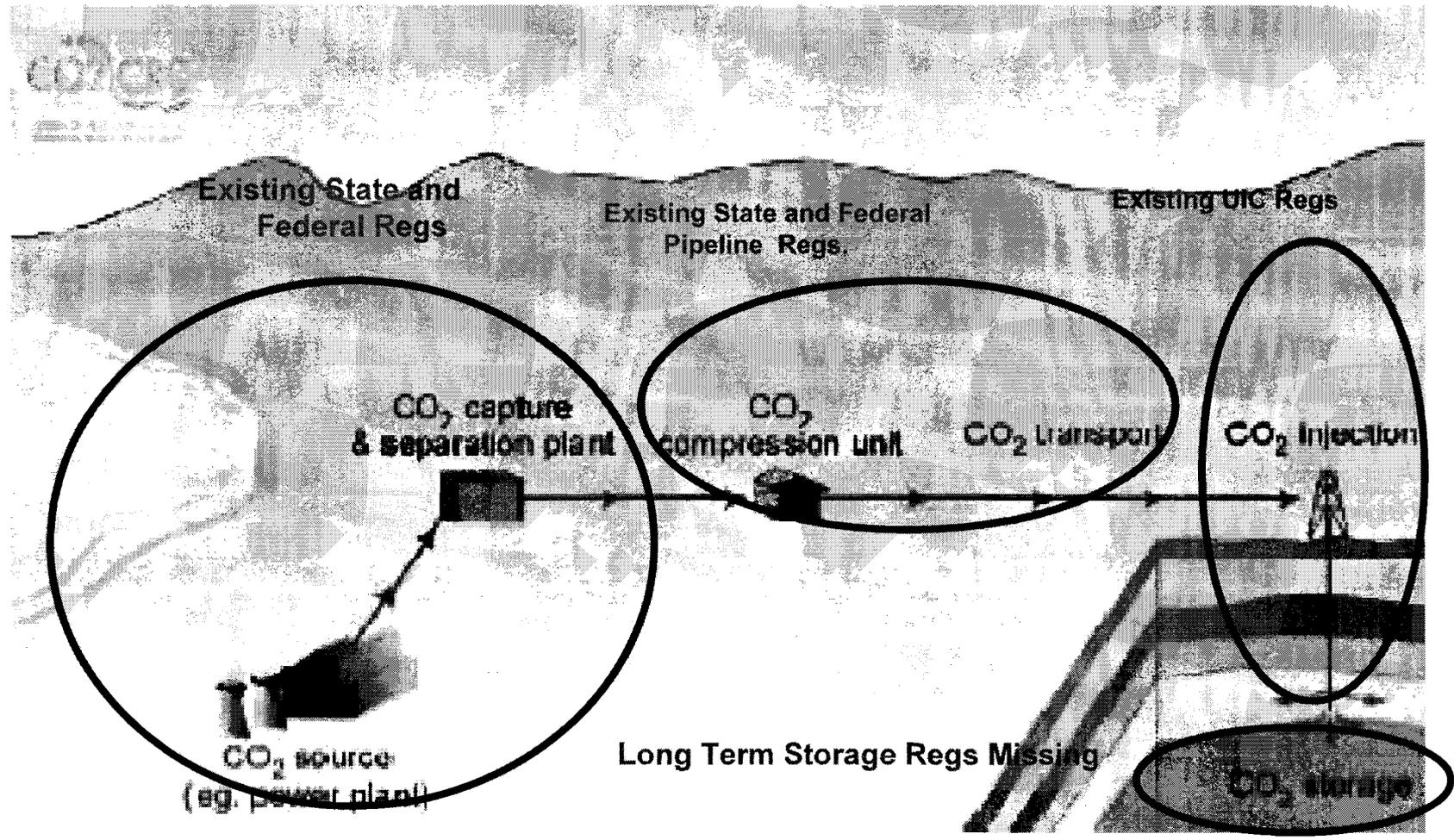
CCS REGULATORY FRAMEWORKS

Regulatory Framework

The Task Force strongly believes that treatment of geologically stored CO₂ as waste using waste disposal frameworks rather than resource management frameworks will diminish significantly the potential to meaningfully mitigate the impact of CO₂ emissions on the global climate through geologic storage.



CO2 CAPTURE TRANSPORTATION AND GEOLOGIC STORAGE PROCESS



Task Force Guiding Principals

- **MUST BE SEAMLESS** – maximize economic and environmental benefits, establish “cradle to grave” framework to provide for fully integrated regulatory oversight and clearly identify risk parameters for industry.
- **KEEP IT SIMPLE** – do not over-regulate for the exotic, initially address what will most likely occur, amend regulations with experience.
- **BE FLEXIBLE AND RESPONSIVE** – modify as gain knowledge with easy projects, respond to constantly changing technologies, which is a certainty, “one size” will not fit all projects.
- **“DOABLE”** - implement regulations which can be fielded now, problems will occur, but most are solvable, can not be focused on resolving every conceivable issue before initiating regulations.
- **MAINTAIN POSITIVE PUBLIC PRESENTATION** – CGS is part of a solution with economic and environmental benefits and not a waste problem waiting for a regulatory protection solution.



Guidance Document

- Analysis of the U.S. Safe Drinking Water Act Relating To Carbon Capture and Geologic Storage
- Analysis of Property Rights Issues Related to Underground Space Used for Geologic Storage of Carbon Dioxide
- Overview and Explanation of the Model General Rules and Regulations
- Model Statute for Geologic Storage of Carbon Dioxide
- Model General Rules and Regulations

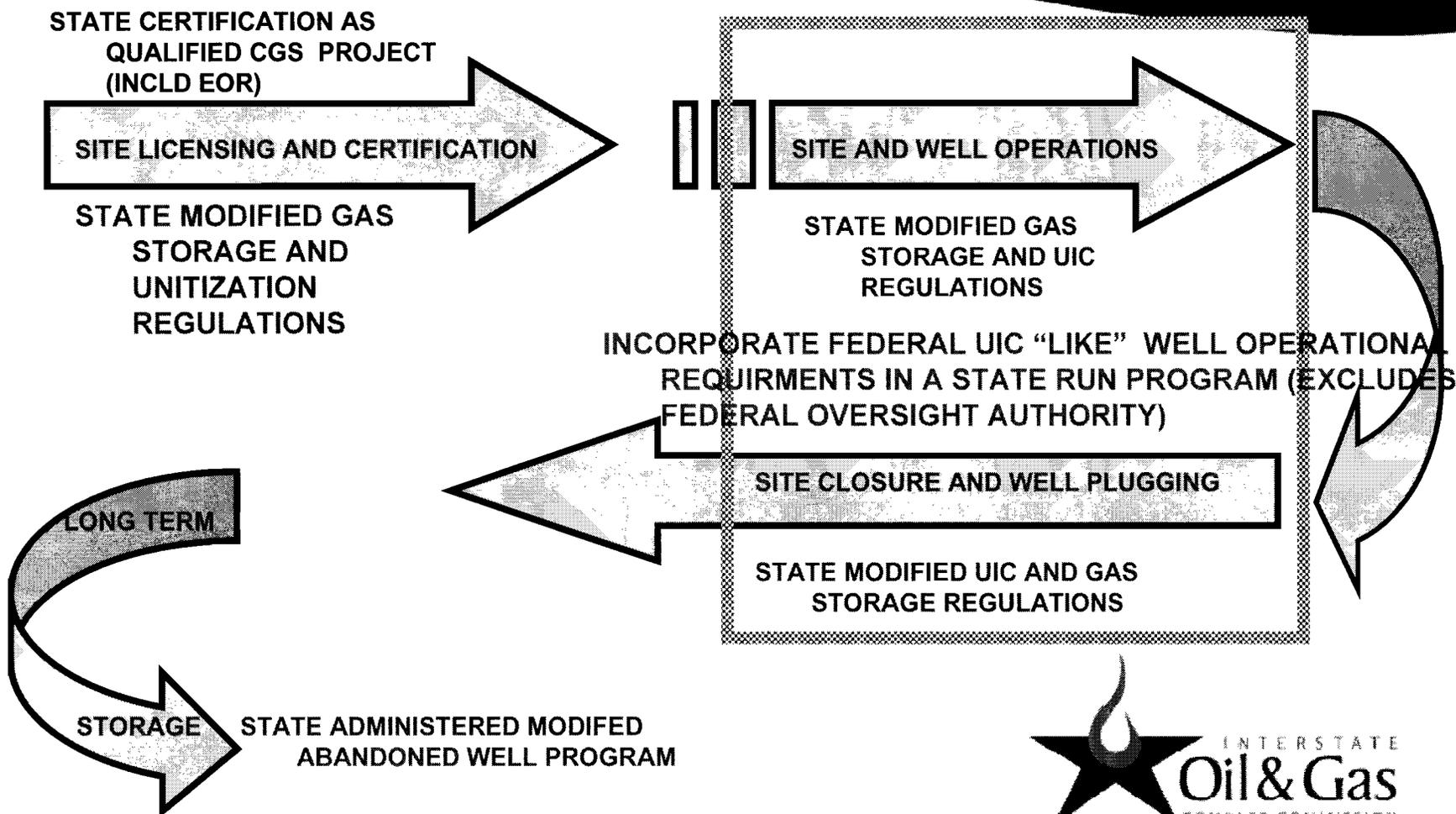


Application of the U.S. Safe Drinking Water Act to Carbon Dioxide Storage

- The Underground Injection Control (UIC) Program of the U.S. Federal Safe Drinking Water Act does not mandate the regulation of CO₂ storage by the USEPA.
- UIC Program may be applicable at the discretion of a state program, the current limitations of the UIC program make it applicable only to the operational phase of the storage project
- Given ownership issue and the proposed long-term “care-taker” role of the states, the states are best positioned to provide the necessary “cradle to grave” regulatory oversight of geologic storage of **CO₂**.



STATE ADMINISTERED "CRADLE TO GRAVE" REGULATORY FRAMEWORK



Analysis of Property Rights Issues Related to Underground Storage

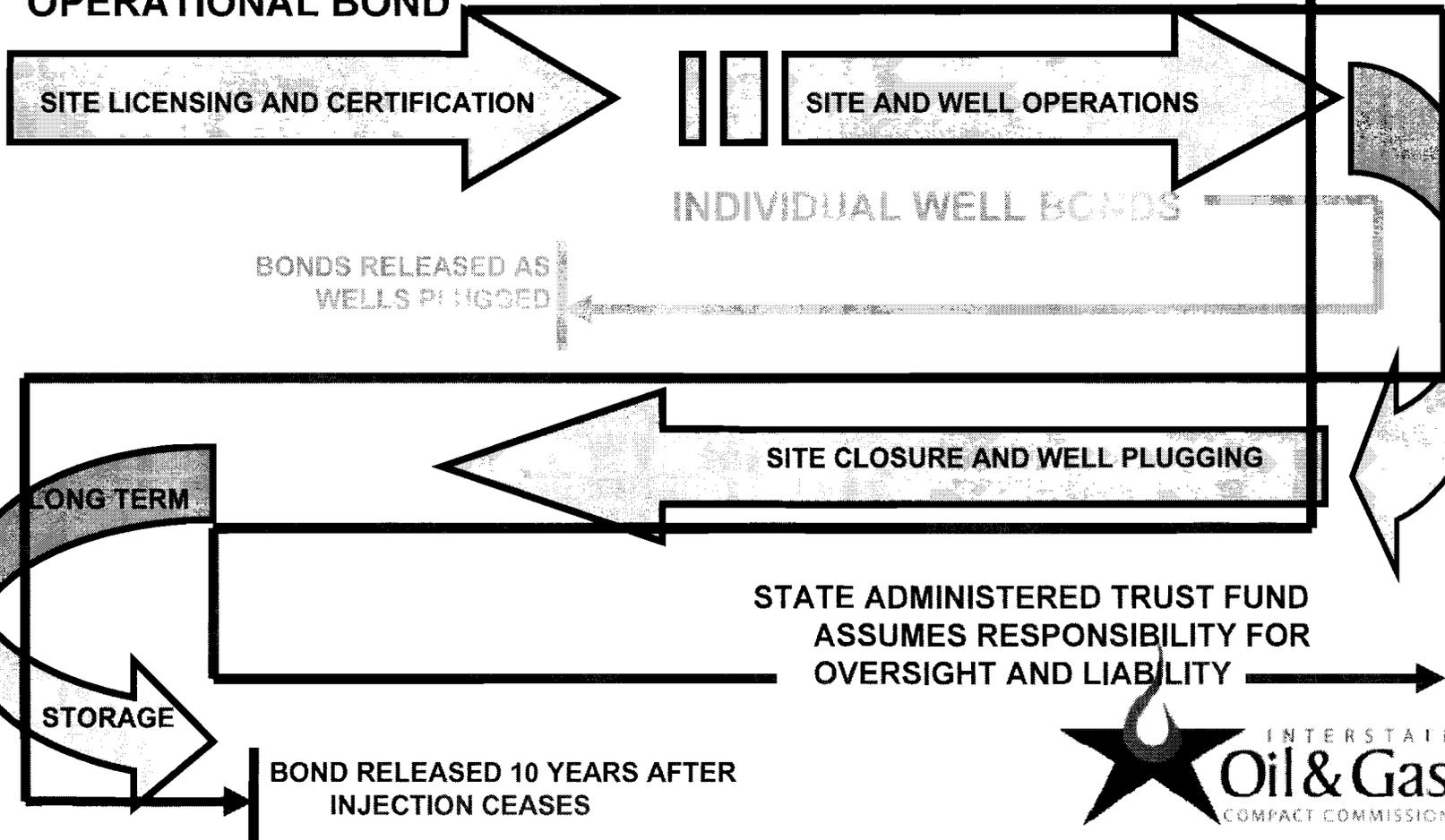
- **Control of the reservoir and associated pore space used for CO₂ storage is necessary to allow for orderly development**
- **The right to use reservoirs and associated pore space is considered a private property right in the United States, and must be acquired from the owner.**
- **Control of the necessary storage rights should be required as part of the initial storage site licensing to maximize utilization of the storage reservoir.**
- **In the U.S., with the exception of federal lands, the acquisition of these storage rights, which are considered property rights, generally are functions of state law.**



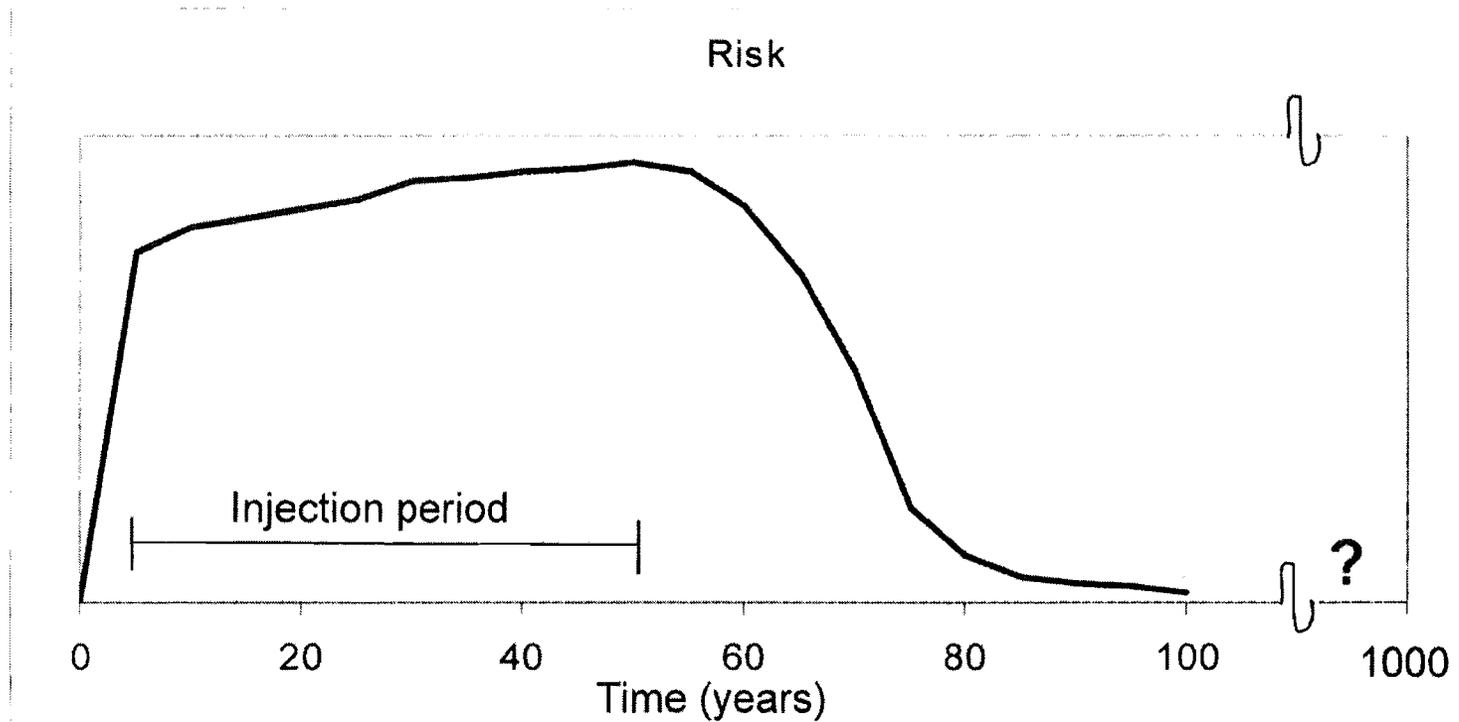
STATE ADMINISTERED "CRADLE TO GRAVE" REGULATORY FRAMEWORK

PAYMENT OF STORAGE FEE

OPERATIONAL BOND



The risk timeline for leakage is heavily-laden in early times.



Why does it look like this?

Pressure driver during and post injection

Most "changes" occur in early phase

Long-term effects trap larger quantities of CO₂

Seals may be affected over long-term



Summary of Primary Phase II Task Force Proposals

1. **STATES ARE PROPOSED** as the lead entities for the regulation of CGS projects, as states have the necessary regulatory tools and will promote the best interest of the state relative to initiating CGS projects in the state.
2. **REGULATORY FRAMEWORK** is a state administered program under state authority, incorporating federal UIC “like” well operational parameters. State can decide to utilize the Federal UIC Program for operational phase of project at the states’ discretion.
3. **STATES ARE PROPOSED AS THE MOST RESPONSIVE ENTITY TO ADMINISTER LONG TERM “CARETAKER” RESPONSIBILITY FOR CGS PROJECTS**, through a State administered trust fund.



Overview of Phase II Task Force

Next Steps

1. Final versions of model statute and regulations circulated to Governors of IOGCC states for review in early August.
2. Guidance Document submitted to DOE/NETL August 20, 2007 for review and approval.
3. Formal release in late September 2007 following presentation to IOGCC membership at IOGCC Annual Meeting in New Orleans on September 25, 2007.
4. Dissemination of Guidance Document to states; monitoring of state legislative and regulatory efforts; and, refinement and improvement of model documents based on state experience.
5. Continuing work with Regional CO₂ Sequestration Partnerships on regulatory issues encountered in pilot projects and in possibly implementing new state laws and regulations governing the geologic storage of CO₂.
6. Task Force (Phase III) work to more fully explore ownership, pipeline transportation and site selection issues.



STATES CURRENTLY DEVELOPING REGULATIONS USING DRAFT VERSIONS OF IGC REGULATIONS

- **New Mexico**
- **California**
- **North Dakota**
- **Wyoming**
- **Texas**
- **At least 5 other states beginning work**

