Guidance for States and Provinces on Operational and Postoperational Liability in the Regulation of Carbon Geologic Storage

Lisa S. Botnen,[1] John A. Harju,[1] Kevin C. Connors,[2] Kevin J. Bliss,[3] and Lawrence E. Bengal[4]

[1]Energy & Environmental Research Center,
University of North Dakota
15 North 23rd Street, Stop 9018
Grand Forks, North Dakota 58202-9018

[2]North Dakota Industrial Commission,
Oil and Gas Division Department of Mineral Resources
600 East Boulevard Avenue, Department 405
Bismarck, ND 58505-0840

[3] Bliss Consulting
1235 4th Street SW
Washington, DC 20004

[4]Arkansas Oil and Gas Commission
PO Box 53127
Oklahoma City, OK 73152

Abstract

The Interstate Oil and Gas Compact Commission (IOGCC) Task Force on Carbon Geologic Storage (CGS) has produced reports that constitute IOGCC guidance to U.S. states and Canadian provinces on the formation of legal and regulatory frameworks for the storage of carbon dioxide (CO) in non-hydrocarbon-bearing geologic formations.

The latest effort of the Task Force focuses on issues of liability in all phases of a CGS project and discusses liability broadly under federal, state or provincial, and common law, from the perspective of the state or provincial regulator.

Since the last IOGCC guidance in 2010, the Environmental Protection Agency (EPA) in the United States promulgated regulations under the Safe Drinking Water Act (SDWA) and its Underground Injection Control (UIC) Program to govern CGS. The new regulations by EPA address many, but not all, aspects of CGS project.

To better illustrate the divisions in federal/state regulation and jurisdiction within a CGS project, the Task Force did two things. First, it posited a CGS project as comprising five phases:
1) Exploratory, 2) Permitting (prestorage), 3) Storage (operational), 4) Closure, and 5) Postclosure.

Second, the Task Force produced a CGS Project Framework and Risk Analysis. The analysis, by activity over the five phases of a CGS project, identifies the risks posed by each activity, the regulatory jurisdiction (federal or state) over the activity, and the recommended Financial Assurance (FA) to cover the regulatory risks of the activity. The Task Force discusses FA and the various mechanisms available to the states/provinces to protect their interests related to a CGS project.

One of the major conclusions, at least in the United States, is that states must play a role in the regulation of CGS. Federal jurisdiction does not cover all of the state's regulatory interests in a CGS project. The EPA regulatory mandate under the SDWA begins and ends with the protection of underground sources of drinking water. The work of the Task Force discusses how state interests extend well beyond this important, but limited, mandate.

The situation in Canada with regard to CGS development is different as CGS is almost entirely regulated at the provincial level. Except in a few instances, there is minimal overlap between federal/provincial regulatory jurisdictions.

The Task Force concluded that in order to facilitate the orderly development of CO_2 storage projects within state and provincial boundaries, a state or province should embrace two basic principles enumerated in previous Task Force efforts: 1) that it is in the public interest to promote the geologic storage of CO_2 in order to reduce anthropogenic CO_2 emissions and 2) that the pore space of the state or province should be regulated and managed as a resource under a resource management framework. This should be done by the state or province prior to storage occurring within its jurisdiction.

As it stands, there is a relative dearth of commercial projects for active CGS development. No doubt the issue of long-term liability is an important factor. One apparent conclusion is that states and provinces willing to provide clarity and certainty to project developers by adopting legal and regulatory frameworks will likely have an advantage when it comes to securing CGS project development in their jurisdictions.

Acknowledgments

This material is based on work supported by the U.S. Department of Energy National Energy Technology Laboratory under Award No. DE-FC26-05NT42592.

The authors wish to thank the IOGCC Carbon Geologic Storage Task Force members for their time, knowledge, and valuable input. Task Force members are A. Scott Anderson, Lawrence E. Bengal, Kipp A. Coddington, Frederick R. Eames, Mike Fernandez, Robert J. Finley, John A. Harju, Lynn D. Helms, David Hill, Steve Melzer, and Marvin Rogers.