

Management Alert

EPA Proposes Regulations Governing the Long-term Underground Storage of Carbon Dioxide Emissions

On July 15, 2008, the Environmental Protection Agency (EPA) proposed regulations under the Safe Drinking Water Act (SDWA) governing carbon sequestration, which is the long-term underground storage of carbon dioxide (CO₂) emissions associated with power plant and industrial facility operations.¹ Comments will be accepted for 120 days after the proposed rule is published in the Federal Register.

Underground sequestration involves taking CO₂ or other greenhouse gas (GHG) emissions and depositing the material deep underground in stable geologic formations. The gasses are first captured, typically converted to a liquid state through compression, and then deposited underground using underground injection control (UIC) wells specifically designed and constructed for the task. The underground formations into which the materials are injected (including deep saline formations, unmineable coal seams, and depleted oil and gas fields) contain the sequestered material by both physical and geochemical processes. Low permeability "confining" layers physically prevent the buoyant CO₂ from migrating upward. The material is also immobilized when the dissolved CO₂ reacts with minerals in the injection formation. These physical and geochemical

¹http://www.epa.gov/safewater/uic/wells_sequestration.html

processes mimic the manner in which naturally-occurring CO₂ is trapped in underground formations.

A well-established regulatory program to protect underground sources of drinking water already exists under the SDWA. The EPA currently regulates the underground injection of such things as industrial wastewater and even hazardous waste. The United States has abundant sources of underground formations for such injections. Certain properties of CO₂, however, present specific challenges with respect to underground injection. Issues unique to the underground injection of CO₂ include CO₂'s buoyancy and its potential mobility in geologic formations, potential impurities in captured CO₂, its corrosivity in water, and the large volumes of CO₂ that potentially may be required to be captured and sequestered underground.

The proposed rule establishes a new class of UIC well (Class VI) for carbon sequestration wells. The EPA has proposed requirements that facilities wishing to install Class VI wells must, among other things:

- Adequately characterize the proposed geologic injection formations and areas of review;

- Insure that the UIC wells are constructed to resist corrosion and otherwise prevent fluid movement into unintended underground areas;
- Operate the UIC wells pursuant to specific conditions;
- Monitor that the injected material is going to the intended injection zone;
- Periodically test the mechanical integrity of the UIC wells and monitoring equipment;
- Provide financial assurance mechanisms for proper well plugging, closure, site care, and emergency corrective action; and
- Obtain permits after providing opportunities for public comment and hearing.

The proposed rule also provides procedures for states that want to obtain primary authority over the Class VI UIC wells in their states.

The EPA has been gearing up for the proposed carbon sequestration rules for some time. In the past, Class II UIC wells have been used to inject CO₂ for the purposes of enhanced oil recovery (EOR) and enhanced gas recovery (EGR). The EPA announced in October 2007 that the Agency planned to propose regulations to ensure consistency in permitting full-scale geologic sequestration projects in the summer of 2008. In March 2007, the EPA provided UIC Program Guidance to assist state and EPA regional UIC programs in processing permit applications for near-term geologic sequestration pilot projects prior to full-scale deployment using Class V experimental

technology permits. Several such projects have been permitted, including projects in the Midwest.² Since 2005, the EPA has held nine workshops on carbon sequestration around the country.

The proposed rule only governs CO₂ once it is placed underground. The EPA specifically cautioned that the rule does not govern emissions of CO₂ or any other greenhouse gas under the Clean Air Act.³ The rule also does not address the capture or transportation of CO₂ to sites for sequestration. Carbon sequestration, according to the EPA, is one of a “portfolio of options” to address the impacts of GHG emissions, and the EPA wanted to make sure that the UIC program rules were updated to address the particular issues involved. In short, although no one will be required to sequester CO₂ underground, the rule sets up the regulatory framework should anyone choose to do so.

Seyfarth Shaw's Environmental Safety and Toxic Torts Group tracks statutory and regulatory developments and advises clients in this area. For more information, please contact the Seyfarth Shaw attorney with whom you work or any member of the Environmental Safety and Toxic Torts Group (<http://www.seyfarth.com/Environmental>).

²See <http://216.109.210.162/GeologicDemonstrations.aspx> and <http://sequestration.org/>

³On July 11, 2008, the EPA issued an Advanced Notice of Proposed Rulemaking soliciting public input on the effects of climate change and the potential ramifications of the Clean Air Act in relation to greenhouse gas emissions. <http://yosemite.epa.gov/opa/admpress.nsf/0/CE6311A041013ACE85257483005CDD68> This action in effect insures that the EPA will take no action to regulate GHGs before next year's elections.

ATLANTA

One Peachtree Pointe
1545 Peachtree Street, N.E., Suite 700
Atlanta, GA 30309-2401
404-885-1500
404-892-7056 fax

BOSTON

World Trade Center East
Two Seaport Lane, Suite 300
Boston, MA 02210-2028
617-946-4800
617-946-4801 fax

CHICAGO

131 South Dearborn Street
Suite 2400
Chicago, IL 60603-5577
312-460-5000
312-460-7000 fax

HOUSTON

700 Louisiana Street
Suite 3700
Houston, TX 77002-2797
713-225-2300
713-225-2340 fax

LOS ANGELES

One Century Plaza
2029 Century Park East, Suite 3300
Los Angeles, CA 90067-3063
310-277-7200
310-201-5219 fax

NEW YORK

620 Eighth Avenue
New York, NY 10018-1405
212-218-5500
212-218-5526 fax

SACRAMENTO

400 Capitol Mall
Suite 2350
Sacramento, CA 95814-4428
916-448-0159
916-558-4839 fax

SAN FRANCISCO

560 Mission Street
Suite 3100
San Francisco, CA 94105-2930
415-397-2823
415-397-8549 fax

WASHINGTON, D.C.

815 Connecticut Avenue, N.W.
Suite 500
Washington, D.C. 20006-4004
202-463-2400
202-828-5393 fax

BRUSSELS

Boulevard du Souverain 280
1160 Brussels, Belgium
(32) (2) 647 60 25
(32) (2) 640 70 71 fax



Breadth. Depth. Results.

www.seyfarth.com

Attorney Advertising. This Management Alert is a periodical publication of Seyfarth Shaw LLP and should not be construed as legal advice or a legal opinion on any specific facts or circumstances. The contents are intended for general information purposes only, and you are urged to consult a lawyer concerning your own situation and any specific legal questions you may have. Any tax information or written tax advice contained herein (including any attachments) is not intended to be and cannot be used by any taxpayer for the purpose of avoiding tax penalties that may be imposed on the taxpayer. (The foregoing legend has been affixed pursuant to U.S. Treasury Regulations governing tax practice.)

Copyright© 2008 Seyfarth Shaw LLP. All rights reserved.