

## Overview: EPA Proposed Geological Sequestration Requirements

On July 15, 2008 the Environmental Protection Agency (EPA) proposed new requirements for geologic sequestration of carbon dioxide. The agency is seeking public comment on the proposed rule for the next 120 days. The rule is not expected to be final until late 2010 or 2011.

Underground fluid injection is currently regulated through EPA's Underground Injection and Control (UIC) Program. The program is part of the Safe Drinking Water Act (SDWA) established to protect underground water resources from contamination. Based on that system, there are five classes of wells for waste injection. Pilot sequestration projects are currently regulated under Class V.

A few highlights of the EPA's proposed rule:

- The proposed rule establishes a new class of injection well -- Class VI -- and the technical criteria for geological site characterization, well construction and operation, mechanical integrity and monitoring of wells, well plugging, post-injection site care, and site closure requirements.
- The rules are proposed as the necessary steps for protecting underground drinking water, and, in many instances would prevent migration of CO<sub>2</sub> to the surface. The Safe Drinking Water Act does not provide authority to develop all areas of regulation related to sequestration. The proposed rule does not determine property rights, discuss capture and transport of carbon dioxide, transfer liability from one entity to another, or discuss accounting for greenhouse gas reductions.
- The EPA currently regulates both pollutants and commodities under the UIC program. The proposed rule does not address the status of carbon dioxide as a pollutant or commodity. The proposal, however, includes significant statements on the subject:
  - The proposal recognizes that in most cases CO<sub>2</sub> that is captured will contain some impurities. Those levels are expected to be low. However, the report notes, "EPA cannot make a categorical determination as to whether injected CO<sub>2</sub> is hazardous under RCRA," the Resource Conservation and Recovery Act. Under the proposal, owners and operators will have to characterize their CO<sub>2</sub> stream as part of the permit applications to determine whether it is considered hazardous. If it is considered hazardous, the more stringent Class I well requirements will apply.
  - The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), better known as Superfund, also is addressed. The proposal recognizes that CO<sub>2</sub> is not a hazardous substance under CERCLA, but notes that a CO<sub>2</sub> stream from a power plant could contain mercury or other hazardous substances. "Whether or not there is a

'hazardous substance' that may result in CERCLA liability from a sequestration facility depends entirely on the make-up of the specific CO<sub>2</sub> stream and of the environmental media in which it is stored. . . As applicable, a determination of liability would be made on a case-by-case basis in Federal courts in response to claims . . ."

- The proposal discusses, to some degree, long-term liability for geologic sequestration operations:
  - The EPA is proposing using a combination of a fixed timeframe and a performance standard for the post-injection timeframe. The tentative proposal for post-injection monitoring is 50 years, allowing a program director with some additional latitude in that area.
  - The proposal requires that owners and operators demonstrate and maintain financial responsibility and have the resources for activities related to closing and remediating a site. The proposal does not discuss transfer of financial responsibility to other entities or creation of a third party financial mechanism, where the EPA or another entity would be the trustee.
  - "Trust responsibility for potential impacts to USDWs remains with the owner or operator indefinitely under current SDWA provisions." Because responsibility for long-term care is important to sequestration, the EPA is compiling additional information in this area.
- The proposal is clear that States that wish to retain primacy over these new wells, Class VI wells, will need to promulgate regulations that are at least as stringent as those finalized by the EPA. However, this appears to be most directed at states that currently have primacy over ALL well classes (I-V). The State of Montana currently only has primacy over Class II wells, and on the subject of parceling out primacy over just the new Class VI wells, the report states, "There may be benefits to parsing out primacy for Class VI wells, however, EPA has not made a decision on this."
- The requirements in the proposal would not specifically apply to Class II injection wells or Class V experimental wells. Injection of CO<sub>2</sub> for enhance oil and gas recovery, for example, as long as production is occurring, would be permitted under Class II.