

# Fact Sheet for Geologic Sequestration and Injection of Carbon Dioxide: Subparts RR and UU



## Greenhouse Gas Reporting Program

### Action

On November 22, 2010, the U.S. Environmental Protection Agency (EPA) issued a final rule that requires facilities that conduct geologic sequestration of carbon dioxide (CO<sub>2</sub>) and all other facilities that inject CO<sub>2</sub> underground to report greenhouse gas (GHG) data to EPA annually.

- This rule amends the regulatory framework for the GHG Reporting Program. This Program requires reporting of GHG emissions and other relevant information from certain source categories in the United States, including suppliers of CO<sub>2</sub>. Subpart RR of this rule requires GHG reporting from facilities that inject carbon dioxide (CO<sub>2</sub>) underground for geologic sequestration, and subpart UU requires GHG reporting from all other facilities that inject CO<sub>2</sub> underground for any reason, including enhanced oil and gas recovery.
- This rule requires facilities conducting geologic sequestration of CO<sub>2</sub> to develop and implement an EPA-approved site-specific monitoring, reporting and verification (MRV) plan, and to report the amount of CO<sub>2</sub> sequestered using a mass balance approach. This rule is complementary to and builds on EPA's Underground Injection Control (UIC) permit requirements.
- EPA has designed this rule so that facilities can comply with the reporting requirements without disrupting or delaying normal operations.
- For those facilities that inject CO<sub>2</sub> for geologic sequestration (subpart RR), the estimated annual cost of reporting for each facility is \$320,000 for deep saline formation projects.
- For facilities that inject CO<sub>2</sub> underground for enhanced oil and gas recovery or any other purpose other than for geologic sequestration (subpart UU), EPA estimates the annual cost of reporting to be \$4,000.

### Background

- Geologic sequestration is the long-term containment of CO<sub>2</sub> in subsurface geologic formations and is a key component of a set of climate change mitigation technologies known as carbon dioxide capture and sequestration (CCS). CCS has the potential to enable large emitters of CO<sub>2</sub> such as coal fired power plants to significantly reduce GHG emissions.
- The data obtained through this rule will inform Agency policies and decisions under the Clean Air Act related to the use of carbon dioxide capture and geologic sequestration (CCS) for mitigating GHG emissions.
  - Subpart RR information will enable EPA to monitor the growth and effectiveness of geologic sequestration (and therefore CCS) as a GHG mitigation technology over time and to evaluate relevant policy options.

- Under subpart UU, EPA will be able to evaluate data obtained on CO<sub>2</sub> received for injection in conjunction with data obtained from subpart PP on CO<sub>2</sub> supplied to the economy.

## Overview of Reporting Requirements

- Under subpart RR, facilities that conduct geologic sequestration by injecting CO<sub>2</sub> for long-term containment in subsurface geologic formations, including UIC Class VI wells, are required to:
  - Report basic information on CO<sub>2</sub> received for injection.
  - Develop and implement an EPA-approved site-specific MRV plan.
  - Report the amount of CO<sub>2</sub> geologically sequestered using a mass balance approach and annual monitoring activities.
- Under subpart UU, all other facilities that inject CO<sub>2</sub> underground such as for enhanced oil and gas recovery or any other purpose, are required to:
  - Report basic information on CO<sub>2</sub> received for injection.
- Facilities that report under subpart RR for a well or group of wells are not required to report under subpart UU for that well or group of wells.
- Facilities that conduct enhanced oil and gas recovery are not required to report geologic sequestration under subpart RR unless (1) the owner or operator chooses to opt-in to subpart RR or, (2) the facility holds a UIC Class VI permit for the well or group of wells used to enhance oil and gas recovery.
- Geologic sequestration R&D projects will be granted an exemption from subpart RR. Projects receiving a subpart RR R&D exemption are required to report basic information on CO<sub>2</sub> received under subpart UU.
- All facilities that conduct geologic sequestration (subpart RR) are required to submit annual reports to EPA by March 31, 2012 reporting basic information on CO<sub>2</sub> received in 2011. These facilities will add data to their annual reports on the amount of CO<sub>2</sub> that is geologically sequestered and annual monitoring activities once their EPA-approved MRV plans are implemented.
- All other facilities that inject CO<sub>2</sub> underground (subpart UU), such as for enhanced oil and gas recovery or any other purpose, are required to submit annual reports to EPA by March 31, 2012 reporting only basic information on CO<sub>2</sub> received in 2011.

## Relationship to Other Regulations

- This rulemaking does not change any of the requirements to obtain or comply with a UIC permit for facilities that are subject to EPA's UIC program under the Safe Drinking Water Act.
- Through a separate rulemaking effort, EPA has finalized federal requirements under the UIC program for Class VI geologic sequestration wells to ensure protection of underground sources of drinking water. For more information on the UIC Class VI rule visit: [water.epa.gov/type/groundwater/uic/wells\\_sequestration.cfm](http://water.epa.gov/type/groundwater/uic/wells_sequestration.cfm). Subparts RR and UU fulfill a

separate but complementary goal which is to quantify the total amount of CO<sub>2</sub> sequestered and to confirm that it remains sequestered and is not emitted to the atmosphere over the long term.

## **Public Involvement**

- A 60-day public comment period on the proposed rule was open from April 12, 2010 to June 11, 2010. EPA also conducted a public hearing in Arlington, VA on April 19, 2010 and had an open-door policy for discussing the proposed rule.

## **More Information**

- For additional information about this rulemaking, visit EPA's Web site at: <http://www.epa.gov/ghgreporting/index.html>. If you have questions that cannot be answered through the Web site, please go to Rule Help Center, and then select Contact Us.
- For background information about GHGs and climate change science and policy, please see EPA's climate change Web site at: [www.epa.gov/climatechange](http://www.epa.gov/climatechange).