

EPA Initiates Rulemaking to Set Discharge Standards for Wastewater from Coalbed Methane Extraction

Natural Gas from Coalbed Methane

Coalbed methane (CBM) is a form of natural gas extracted by drilling wells into coal seams. CBM extraction accounts for approximately 8% of natural gas production in the U.S. Unlike extraction of conventional natural gas, CBM extraction requires the removal of groundwater to reduce the pressure in the coal seam, which allows CBM to flow to the surface through the well.

EPA Learns of Environmental Issues from Permitting Experience and Stakeholder Input

In 1979, EPA established wastewater discharge standards for Oil and Gas Extraction, but at the time, CBM extraction was relatively unknown, and the regulations did not address CBM processes. Since then, EPA and States have used best professional judgment to develop discharge permits that specify the conditions under which operators may discharge the produced water. The CBM industry has since expanded. As part of EPA's biannual review and planning process for industrial wastewater standards, citizens and environmental advocacy groups encouraged EPA to develop a regulation for CBM extraction. In 2006, EPA announced a study of CBM extraction, which included collecting information directly from CBM operators. In light of the study's findings, EPA decided to initiate rulemaking.

Summary of Wastewater Discharges and Industry Responses

EPA evaluated information from numerous sources during its detailed study of CBM extraction. EPA visited 33 sites in eight states and conducted 43 meetings and teleconferences with interested parties. EPA also sent 252 (all) operators a short questionnaire in 2009 that was used to identify water practices for approximately 55,000 (all) wells. Subsequently, EPA sent a more detailed questionnaire to a subset to collect information about water management practices and financial information. EPA also studied information from state wastewater discharge permits, treatment equipment vendors, the U.S. Geological Survey (USGS), the U.S. Department of Energy, and other literature.

While some of the ground water pumped out during CBM extraction is re-used or re-injected, a significant amount still requires disposal. Data collected from the survey of the industry yields an estimate that CBM operators collectively discharge approximately 45%, or 22 billion gallons, of the produced water each year to surface waters. The study also found that there are readily available technologies to treat these discharges. Coalbed methane-produced water discharges can impact receiving surface waters and soils. Saline discharges from coalbed methane operations can adversely affect aquatic life. The large volume of water discharged can also cause stream bank erosion and salt deposition, creating hardpan soil.

Next Steps for Public Input

EPA continues to evaluate the significant amount of data collected during the detailed study. In addition, EPA will continue to obtain pollutant-related data such as permit requirements, monitoring data, and treatment technologies.

EPA will continue to meet with industry, local landowners, environmental groups, and tribes to discuss progress on the rulemaking, to review regulatory approaches EPA is considering, and to solicit input. EPA is especially sensitive to environmental justice considerations and potential compliance issues for small business and for tribal communities.

Schedule

EPA plans to propose standards for public comment in 2013.