Verdeo Group Alert, July 2010

Methane Emissions in the Cross-Hairs

The EPA requires reporting of methane emissions from underground coal mines

Overview

On June 28, 2010, the EPA finalized a new rule – Subpart FF of the Mandatory Greenhouse Gas Reporting Rule – that requires monitoring and reporting of methane from underground coal mining activities. With this rule, the EPA moves one step closer to having access to mine-level data on methane liberation, as well as destruction. While longer-term implications remain uncertain, we believe that the EPA's increased focus on methane emissions data from coal mines, combined with the EPA's impending enforcement of greenhouse gas (GHG) regulations from stationary sources as early as 2011 under the regulatory framework of the Clean Air Act Tailoring Rule, present a risk that underground coal mines may eventually be required to control methane emissions from mining activities.

Implications for Mines

As a result of this final rule, all active underground coal mines and underground coal mines under development with ventilation and pre-mine degasification systems must prepare to meet the EPA's requirements to collect, organize and report data on methane emissions. Mines that are subject to this rule must begin monitoring methane emissions on January 1, 2011 in accordance with specific provisions, and submit the first of annual reports to the EPA by March 31, 2012. The EPA has proposed making all information submitted under this rule available to the public.

Background

In 2007, President George W. Bush signed the Consolidated Appropriations Act of 2008 into law, which authorized funding for the EPA to develop a program for the mandatory reporting of GHG emissions from a wide range of sources in the U.S. economy; this funding was designed to enable the EPA to collect data to inform future policy decisions pertaining to GHG emissions. In response to the Act, the EPA released a proposed rule in April 2009 that required reporting of GHG emissions from a number of sources in the U.S. This rule was finalized on October 30, 2009, though it did not include final reporting requirements for 11 sources that were originally included in the April 2009 proposal, including underground coal mines. However, this recent action by the EPA officially finalizes mandatory methane monitoring and measurement requirements for active underground coal mines and underground coal mines under development with ventilation and degasification systems. Surface mines, abandoned mines, post-coal mining activities and CBM recovery are not subject to Subpart FF.[1]

[1] Mines must also report GHG emissions for other source categories which are covered under other Subparts of the Mandatory Greenhouse Gas Reporting Rule. For example, facilities must report CH_4, CO_2, and N_2O emissions according to the requirements of Subpart C for sources involving stationary fuel combustion.

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Reporting Requirements

Under Subpart FF, underground mines must monitor and report emissions according to the following requirements:

Monitoring Point	GHG	Monitoring Frequency (Minimum)	Reporting Increment
Main ventilation/bleeder shaft	CH_4 emitted	Quarterly	Quarterly
Degasification well[2] (before, during or after mining)	CH_4 emitted	Weekly	Quarterly
Methane destruction device	CH_4 destroyed	Continuously	Quarterly
	CO_2 produced		

Subpart FF requires mines to monitor a number of specific parameters at each monitoring point, including volumetric flow, methane concentration, and temperature, pressure, and moisture content values at the times measurements are made. In addition, mines must meet additional record keeping requirements set forth under the 2009 Mandatory Greenhouse Gas Reporting Rule. These include requirements for maintaining records of GHG calculations, GHG monitoring plans, and monitoring instrument maintenance and calibration. This information must be organized and made accessible to the EPA in the event that it is requested for audit. Furthermore, any failure to collect or report required data will be considered a violation of the Clean Air Act, which can result in substantial financial penalties.

Technology Considerations

While many mines already collect some emissions data, most will need to consider purchasing new monitoring equipment or services, or configuring existing equipment to meet the requirements set forth by the EPA. Mines will also need to evaluate the costs and associated benefits of a host of important considerations in the process of designing monitoring systems, including technology suitability, calibration requirements, and the level of automation and remote communication capabilities desired (particularly for off-grid degasification wells). In addition, as more mining companies begin to explore opportunities to develop and certify carbon offset projects, there may be additional value to designing systems that meet dual monitoring requirements of the EPA and offset certification programs.

Drawing upon our experience in coal mine methane project development, Verdeo is in discussions with mining clients about designing solutions to measure and monitor methane emissions to meet EPA's new GHG reporting requirements in an efficient and cost-effective manner. If you're interested in speaking with us further about this work or other GHG policy developments, please contact Jeff Liebert, Managing Director, at jliebert@verdeogroup.com or (202) 777-7594.

[2] Methane may be monitored from each degasification well or from a centralized monitoring point.