

August 13, 2009

Jerry Seager  
VCS Association, Program Manager:  
VCS Association  
1776 Eye Street, NW  
9th Floor  
Washington, DC 20006

RE: Revisions to ACM0008 to Include Methane Capture and Destruction from  
Abandoned Coal Mines

Dear Mr. Seager,

Thank you for the allowing Ruby Canyon Engineering (RCE) the opportunity to review and comment on the above referenced modification to ACM0008 to include abandoned mine methane (AMM) projects. The following are our comments and concerns regarding the document. We have also included the document with some edits that we believe help to clarify the content.

We believe that there is no reason to exclude “flooded” mines because all abandoned mines are flooded to some extent and if a mine is totally flooded a methane recovery project will not be initiated.

Under the heading “Emissions of methane from venting and sealed abandoned mines” we have the several concerns.

- Step 1: Identify relevant mine parameters. There is a list of information that can be used to develop a numerical model to establish a baseline for a particular model. However there is no established methodology by which these models should be built. This type of modeling is mentioned in Option C but is discouraged.
- Step 2: Determine the hyperbolic decline curve equation coefficients
  - Option A: Derive hyperbolic decline curve coefficients using measured emission rate data. We agree that this is a viable option and may be able to be used under limited circumstances. However, a monitoring and metering methodology needs to be submitted that details how this is to be done.
  - Option B: Obtain hyperbolic decline curve coefficients used to develop the country of origin’s national greenhouse gas inventory. We don’t believe that this allows sufficient rigor when determining a baseline for a specific project. RCE personnel were involved in developing the decline curves for abandoned mine methane emission inventory in the United States and were also involved in providing a similar methodology to the IPCC for guidance on developing country wide emission estimates. These decline curves are very general and were developed based on average values of parameters and assumptions concerning mine size and the amount coal in contact with the mined out volume by coal

basin. For example the curves for the United States were developed using a computational fluid dynamic model that assumed a 4000 acre mine. The baseline predicted for a smaller mine would be overstated and would be understated for a larger mine.

- Option C: Derive hyperbolic decline curve coefficients using known physical mine parameters. This was done in order to derive the EPA inventory decline curves but on a basin-wide basis and we believe that for gross national inventory purposes it is relatively rigorous. The primary problem with this approach is that it must be applied consistently and transparently which is difficult to do when using a simulation modeling approach.
- Step 4: Determine the appropriate value for AMMy. Where it is stated “Using the minimum of these values is conservative, and ensures that AMMy never is greater than either the emissions projected using a decline curve or the amount of methane captured by the project activity”. If the production exceeds the baseline we believe that it should be credited to future emission reductions that would occur absent the project.

RCE has struggled with how to establish an abandoned mine methane project baseline that is transparent and easily verifiable. It is a difficult problem and our concern is that by not having such a methodology AMM projects will not take place. There are two general statements that we believe can be made about AMM after our long involvement in this sector:

1. Abandoned mines leak methane to the atmosphere. This has been demonstrated worldwide through documented methane seepage into surface structures and by catastrophic releases after the failure of a sealed vent.
2. Financially, stand alone AMM projects are very risky. Most, if not all projects that I am familiar with are either not profitable or are marginally profitable and future projects will require some type of outside incentive to attract investment.

RCE believes that a conservative baseline approach that is transparent, easily verified and meets the criteria of only capturing the methane that would be naturally emitted to the atmosphere from the abandoned mine is achievable. We recommend that a working group of interested stakeholders (similar to the CAR process) be formed to generate such a baseline. RCE has some ideas but they are not yet ready for submittal and we have found that it is necessary to have a broad range of input to these types of questions in order to achieve a rigorous and generally acceptable methodology.

Emission of AMM is a worldwide issue that needs to be addressed as soon as possible. Hopefully VCS can help lead the way.

Sincerely yours,



Ronald C Collings P.E. and Michael M Coté  
Ruby Canyon Engineering, Inc.

970-241-9298

| [rcollings@rubycanyoneng.com](mailto:rcollings@rubycanyoneng.com)