

Acid Mine Drainage, Superfund, and Marcellus Shale?

Unprepared for economic and social costs

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Outline

- CERCLA provisions
- Evolution of a Superfund site
- Future of Superfund program
- Probability of Marcellus Shale drilling wells becoming hazardous waste sites?
- Economic implications

Superfund program

- 1980 CERCLA
- Created Superfund
 - parties responsible bear costs and responsibility
 - federal government given means to quickly and successfully respond to problems arising from hazardous waste disposal
- Funded in part by tax on crude oil and certain chemicals and an environmental tax on corporations







Marcellus shale

- Federal law exemptions
- Impacts of exemptions
- Increasing evidence documents human health impacts to vulnerable population
 - EPA study from Pavillion, WY
 - Bamberger study



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LIGHT HAWK







Future of Superfund

- Tax expired in 1995
 - American Taxpayer now bears burden
 - Principal Responsible Parties
- Budget has fallen over the years
 - FY 2013
- Still an active program
 - Growing list of sites



Gas well closure in PA

- Before Marcellus, estimated:
 - 8,000 abandoned wells
 - 184,000 wells unaccounted for
- PA began plugging wells which lack legally responsible owner
- Before Marcellus, estimated to take 160 years to plug orphan wells at 2004 funding rates

Costs of closure

- Cost of plugging Marcellus shale gas well not been formally estimated by DEP
- Bonding requirement established to cover costs in case of well-owner insolvency
 - HB 1950- \$10,000 bond per well
- Carnegie-Mellon study: more than \$100,000 to plug deep well

The economic burden

- Government (federal, state, or local)?
 - Drilling industry?
 - Pennsylvania taxpayers?
-
- Alternatives to Superfund



http://blog.al.com/live/2010/07/oil_spill_day_100_the_11_men_w.html

Conclusion #1

- Looking at Palmerton's legacy and the historical evolution of Superfund projects, we need to determine if natural gas extraction sites have the potential to become the next generation of hazardous waste sites in PA.

Conclusion #2

- Does Marcellus resemble Palmerton or AMD?
More likely, it will resemble AMD where PA has to deal with a chronic and pervasive problem that requires substantial funding, but has no adequate funding stream that can remedy the impacts.



Conclusion #3

- Posted bonds by drilling operators do not appear to be sufficient to bear the long-term cost for proper closure and site remediation.

Questions

- Are the regulatory and policy safeguards in place to prevent the exacerbation of future Superfund sites?
- Just as poorly-planned coal-mining spawned AMD, is Marcellus extraction potentially another permanent environmental scar that will produce a chronic problem without economic or policy resolution?
- Do PA drillers have economic solvency, or will they just evaporate like so many Superfund PRPs to leave the cost to be dealt with by taxpayers?

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