

# Regulations Under Revision Residual Waste Beneficial Use of Coal Ash

Environmental Quality Board

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Kenneth R. Reisinger, Acting  
Deputy Secretary

Office of Waste, Air and Radiation  
Management

# Purpose

- To formalize through regulation DEP's policies on coal ash certification and use at mine sites.
- To adopt the recommendations of the National Academy of Sciences in their 2006 report, *Managing Coal Combustion Residues in Mines*.

# General Categories of Proposed Revisions

- General Requirements
- Beneficial Use of Coal Ash
- Coal Ash certification
- Water Quality Monitoring
- Coal Ash Storage

# General Requirements

- Sets maximum leachate limits.
- Specifies physical characteristics for intended use.
- Water quality monitoring required if  $>10,000$  tons/acre or  $>100,000$  tons coal ash to be used for a project.
- Prohibits placement within 8 ft of the water table unless DEP approves for use at a mining activity site.

# Certification

- Replaces certification under current DEP technical guidance.
- Increased sampling and reporting frequency and added parameters.
- Includes physical characteristic requirements for specific uses.
- Requires quarterly re-analysis.
- Annual report on quantity and sites used.

# Coal Ash Storage

- Covers storage in piles and surface impoundments prior to beneficial use.
- Contains isolation distances from streams, wetlands, water supplies, sinkholes, etc. for storage impoundments and other coal ash storage facilities.

# Beneficial Uses

- Moved from Chapter 287.
- Covers structural fill, soil substitute or soil additive, use at permitted and abandoned coal mines, coal reprocessing sites, and specific other uses.
- Public notice and deed notice where large quantities are to be placed.
- Includes additional standards for use, such as lift thickness.

# Water Quality Monitoring

- Minimum 12 monthly background samples.
- Monitoring parameters identified. Additional parameters may be required based on site conditions.
- Quarterly monitoring during placement and 5 years after final placement and annually for 5 additional years.
- Monitoring data to be submitted quarterly.



# Current Vs. New Regulations

## Current in Chapter 287

- Covers structural fill, soil substitute or soil additive, use at permitted and abandoned coal mines, coal reprocessing sites, and specific other uses.
- Refers to “Coal Ash Certification Guidelines” for use at mine sites.

## New Chapter 290

- Covers same uses, with some new performance requirements, such as lift thickness, density and slope.
- Replaces certification guidelines in policy with requirements for use at mine sites.
- Adds/increases water quality monitoring requirements.
- Covers storage.

# Changes to Water Quality Monitoring

## Old Policy

- Complete Analysis – 1 per year
- Parameters – 27
- Baseline – 6 months
- ~2-3 yrs post-mining monitoring
- Groundwater monitoring
- Total metals

## New Policy & Regs

- Complete Analysis – Quarterly (4 samples)
- Parameters – 40
- Baseline – 12 months
- 10 years post-mining monitoring
- 3 or more Downgradient points; 1 Upgradient
- Total & dissolved metals
- Wells must be purged

# Changes to Ash Monitoring

## Old Policy

Leaching Parameters –  
20

- Monitoring – 2 samples per year
- Some data submitted to DMOs, some to Harrisburg

## New Policy & Regs

■ Leaching Parameters – 32

- Monitoring – 4 or more samples per year
- Centralized process – data goes to Hbg
- Lower leaching limits for As, B, Pb

# Coal Ash Beneficial Use in PA

- Coal ash has been beneficially used in PA for about 25 years, including use in mine reclamation and as structural fill.
- Coal ash was beneficially used at 50 sites in PA in 2008.
- For each of the past several years, 11 million tons of coal ash is used in mine reclamation.
- About 20 surface mine sites have been reclaimed using coal ash.
- The ash, which in many cases is alkaline, can help to prevent the creation of acid mine drainage.
- In many instances, coal ash placement has resulted in improvements in water quality.

## Coal Ash Beneficial Use in Mine Reclamation and Mine Drainage Remediation in Pennsylvania



The Pennsylvania Department of Environmental Protection  
Edward G. Rendell, Governor \* Kathleen A. McGinty, Secretary



Materials Research Institute

[http://www.dep.state.pa.us/dep/deputate/minres/bmr/beneficial\\_use/Index.htm](http://www.dep.state.pa.us/dep/deputate/minres/bmr/beneficial_use/Index.htm)

# Active Sites/Generators

- About 50 mine sites in PA are actively beneficially using coal ash.
- In 2008, about 11 million tons were beneficially used coal ash in mine reclamation and as structural fill.
- 43 coal-fired electricity producers in PA generate about 20 million tons annually.

# Costs to Regulated Community

- Annual fee of \$2000 if coal ash is beneficially used at a permitted mine site.
- Increased coal ash and water quality monitoring will cost \$4400 to \$6800 annually.
- Compaction testing for use as structural fill or mine reclamation will cost about \$300 annually.
- Note: Landfilling of this ash would cost industry at least an additional \$220 million per year.

# Compliance Strategy

- DEP will conduct coal ash and water quality verification at permitted mine sites.
- DEP's Mining Program inspects mine sites where coal ash is beneficially used quarterly.



# Outreach

## Met with:

- ARIPPA
- PPL
- Environmental Integrity Project/Clean Air Task Force
- Reliant Energy

## Provided information to:

- Pennsylvania Coal Association
- Pennsylvania Anthracite Council
- American Coal Ash Association

# Advisory Committees

- The Solid Waste Advisory Committee reviewed this proposal and voted to proceed with the rulemaking at their March 2009 meeting.
- This proposal was presented to the Mining and Reclamation Advisory Board in April 2009.

# Implementation schedule

- Upon publication as final for permitted mining sites.
- For storage and other beneficial use sites, a transition period will be developed for final rulemaking based on comments received during public comment period.



**pennsylvania**

DEPARTMENT OF ENVIRONMENTAL PROTECTION



**Thank You**

**Kenneth R. Reisinger**

**Acting Deputy Secretary, Office of  
Waste, Air and Radiation  
Management**