**Regulations Under Revision Residual Waste Beneficial Use of Coal Ash Environmental Quality Board** July 21, 2009 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 <u>New Policy & Regs</u>
Leaching Parameters

Monitoring – 4 or more samples per year

- 32

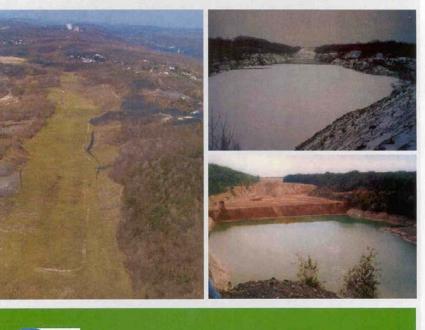
Centralized process – data goes to Hbg

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





Materials Research Institute

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:

Provided information to:

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

 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.



### Thank You Kenneth R. Reisinger Acting Deputy Secretary, Office of Waste, Air and Radiation Management

