

# Draft Proposed Coal Ash Storage and Beneficial Use Regulations

Recently, there have been many news stories involving mishaps with coal ash. Most notable are the Tennessee Valley Authority's coal ash impoundment failure in Roane County, Tennessee, where over five million cubic yards of ash spilled into the Emory River and the Gambrills, Maryland, site where private wells were contaminated due to ash placement. In August 2006 Pennsylvania had its own mishap with coal ash when a leak in an impoundment at the Martins Creek Steam Electric Station, in Northampton County, released 100,000,000 gallons of water and fly ash to the surrounding area and into the Delaware River. Fortunately, a thorough study found no adverse impacts to the river, wildlife or human health.

Although none of these cases involved beneficial use of ash as defined by Pennsylvania law or were subjected to the restrictive criteria imposed in Pennsylvania for beneficially used ash, these stories have raised the level of public awareness and concern on the storage, disposal and beneficial use of coal ash.

The National Academy of Sciences made several recommendations in their 2006 report, *Managing Coal Combustion Residues in Mines*. The Department has proposed to adopt many of their recommendations in its proposed amended policies, "Certification Guidelines for Beneficial Uses of Coal Ash" (563-2112-224) and "Technical Guidance Document for Beneficial Uses of Coal Ash" (563-2112-225). The draft policies were published for public comment in the fall of 2008. The most common comment received was that regulations, not guidance, are needed. While regulations do exist for beneficial use of coal ash in §§ 287.661-287.666, they have changed little since their adoption in 1992.

The Department believes that the regulations concerning beneficial use of coal ash should be updated. The Department also agrees with the commentators that much of what is currently found in guidance would be more appropriately placed in regulation. To effect these changes, including adoption of the recommendations of the National Academy of Sciences, in a timely manner, the Department is proposing a targeted rulemaking focused on the storage and beneficial use of coal ash in order to move expeditiously on coal ash issues rather than including it in the larger waste rulemaking package.

# CHAPTER 290

## BENEFICIAL USE OF COAL ASH

### **Subchapter A. GENERAL 290.1**

Limits the applicability of this chapter to coal ash that has not been mixed with waste or produced by burning coal with alternate fuels.

### **Subchapter B. BENEFICIAL USE OF COAL ASH 290.101**

Establishes general requirements for beneficial use, including tying in the chemical and physical characteristics for coal ash quantification, and establishes when water quality monitoring is required. Includes approval or notification processes and operating requirements for coal ash beneficial use as structural fill, as a soil substitute or soil amendment, in reclamation of active, abandoned or previously mined coal mines, and for other uses, such as use in the manufacture of concrete, for mine subsidence control, mine fire control and mine sealing, as drainage material and pipe bedding, and the use of bottom ash as antiskid.

### **Subchapter C. COAL ASH QUALIFICATION 290.201**

Establishes the procedures for qualifying coal ash for beneficial use. Sets the chemical leaching levels for beneficial use and testing for physical characteristics. Covers revocation of qualification, re-qualification and exceedances of standards.

### **Subchapter D. WATER QUALITY MONITORING 290.301**

Establishes requirements for water quality monitoring and water quality monitoring plans. Covers monitoring points, well construction standards, assessment and abatement plans, and monitoring recordkeeping.

### **Subchapter E. COAL ASH STORAGE 290.401**

Establishes standards for storage of coal ash, including design, operation and duration of storage in piles and storage impoundments, surface water and groundwater protection and areas where the storage of coal ash is prohibited. Storage impoundments require a permit from the Bureau of Waterways Engineering, Division of Dam Safety.

**Key Provisions:**

- Projects involving placement of more than 10,000 tons of coal ash per acre or more than 100,000 tons of coal ash at any project or contiguous projects require water quality monitoring.
  - A minimum of 1 upgradient and 3 downgradient water quality monitoring points required, unless the Department approves a different number.
  - Requires monthly water quality background samples for one year prior to placement of coal ash.
  - Water quality monitoring is to be quarterly up to 5 years after final placement of coal ash and annually for an additional 5 years. The Department can require a longer monitoring period.
  - Addresses requirements for assessment and abatement if groundwater degradation above background is observed.
- Since coal ash used as a soil substitute or soil amendment will be below the 10,000 tons of coal ash per acre, water quality monitoring is not required. In place of water quality monitoring, loading rates are established that make this use more protective and acceptable.
- Requires sampling and analysis of coal ash and compliance with the leachate standards under coal ash qualification for most uses.
  - Leachate standards are based on 25 times the waste classification standard for metals and other cations and the drinking water standards for other contaminants. The factor of 25 allows for dilution and attenuation of metals and other cations that is known to occur.
  - This can be waived or modified by the Department for uses not involving direct placement into the environment, such as use in the manufacture of concrete and in extraction or recovery of materials and compounds contained in the coal ash.
- Adds deed notice for structural fills involving placement of more than 10,000 tons of coal ash per acre and all mine reclamation projects.
- Includes isolation distances for structural fill, soil substitute/soil additive and mine reclamation to protect streams, wetlands and water supplies.
- Includes slope, compaction, and Proctor density requirements to ensure stability of structural fill and mine reclamation projects.

- Requires annual reports for structural fills involving placement of more than 10,000 tons of coal ash per acre and all mine reclamation projects.
- Establishes chemical (leachate) and physical standards and the procedure for qualifying coal ash for beneficial use, which was previously done as certification by policy.
- Establishes design criteria for coal ash storage impoundments, including requiring a composite liner and water quality monitoring.
- Limits storage in surface impoundments to 1 year. Storage in the area where the coal ash will be utilized is generally limited to 90 days. With controls, such as a pad or liner and in a structure to prevent runoff, storage is limited to 1 year.
- Contains siting restrictions for storage areas to protect groundwater and surface water. These restrictions include distance from streams, wetlands, water sources, and others.