

# Technical Bulletin

## EPA Proposed Rules for Disposal of Coal Combustion Residuals from Electric Utilities

On June 21, 2010, the U.S. Environmental Protection Agency (EPA) published proposed rules governing disposal of coal combustion residuals produced by electric utilities. The proposals appear in the *Federal Register* [Volume 75, No. 118, pages 35128 – 35264].

The proposals would regulate coal ash (coal combustion residuals) from electric utilities as either a “special waste,” subject to the Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste regulations, or as a new category of Subtitle D (solid waste) facility requiring detailed design, operation, closure and post-closure care requirements to be met, or the facility will be considered an “open dump” subject to citizens’ suit enforcement under RCRA.

Either EPA approach will change the way coal ash is managed in the United States. EPA says that beneficial uses will still be exempt from regulation as a solid or hazardous waste pursuant to the Bevill Amendment (and state laws), but EPA says that unencapsulated uses--e.g., use as large-scale stabilized fill or reclamation of quarries--are not beneficial uses. Such large-scale uses would be considered landfills under either proposed approach. EPA says it is still looking at how to distinguish closely-related beneficial uses (which the agency appears to continue to support) such as use of coal ash in flowable fill and highway grade stabilization.

### Subtitle C Approach

Under the Subtitle C approach, use of surface impoundments to manage wet ash will be phased out over five years (with final closure two years after phase-out). The phase-out is

the result of a new Land Disposal Restriction for coal combustion wastewaters. After five years, such wastewaters can have no more than 100 mg/l of Total Suspended Solids if they are to be placed in a land disposal unit (e.g., a surface impoundment).

Landfills can receive coal ash if it has no free liquids, provided the landfill includes a leachate collection system and a composite liner. The liner and leachate collection systems are required for new landfills and for lateral expansions of existing landfills.

The Subtitle C approach will mean that wet collection of coal ash will be a thing of the past. Utilities will have to implement dry collection, or shift more materials to beneficial use, or both. Smaller coal burning facilities will look hard at these requirements, and might well decide to close as a result. Even if they decide to close, however, they will have to comply with closure and post-closure care requirements (including Subtitle C groundwater monitoring).

A key element of the Subtitle C approach would be the site-wide corrective action authority that EPA and the states would have to address historical releases from solid waste management units (broadly defined). The RCRA corrective action program has been one of the slowest and most cumbersome (not to mention expensive) programs administered under Subtitle C.

### Subtitle D Approach

The Subtitle D approach is based on changes to the eight open dump criteria (floodplains, endangered species, surface water, groundwater, land application, disease, air,

and safety) first published 30 years ago. Under the proposed rule, three of the existing criteria (floodplains, endangered species, and surface water) will apply as written to coal ash facilities, but the remaining five criteria will be replaced with specific design and operating requirements for coal ash facilities.

The Subtitle D approach will not eliminate wet collection of coal ash, but will require existing surface impoundments that continue to receive ash to be retrofitted with a composite liner. An alternative approach to this alternative proposed by EPA will not require retrofitting liners.

The Subtitle D approach relies heavily on utilities to post information (e.g., annual certification reports from independent professional engineers) on a public website. The Subtitle D approach also includes a unique detection groundwater monitoring program focusing on inorganic constituents, many of which are naturally occurring.

### **Common Under Both Approaches**

Under both the Subtitle C and Subtitle D approaches, utilities will have to compile detailed design and operating data for larger surface impoundments, and have these documents (and the design) certified by an independent professional engineer.

Impoundments with either a "high" or a "significant" hazard potential (as defined) must prepare and make available an Emergency Action Plan to cover what will be done in the event of a dam safety emergency.

Both approaches require fugitive dust to be controlled such that dust does not exceed 35 ug/m<sup>3</sup> in air.

### **Steps to Take Now**

Coal-burning utilities will likely take a wait-and-see approach to responding to the EPA proposals. The time and expense involved to

implement any coal ash strategy will be significant, and the risks associated with assuming which approach EPA may select after public comment are considerable. But there are some measures that utilities should take soon in any event. For example:

- Groundwater monitoring experience under the Subtitle C and municipal solid waste landfill rules has illustrated the importance of getting the groundwater science correct at the outset of a monitoring program. Particularly for naturally-occurring inorganic compounds (i.e., the constituents of interest under the EPA proposals for coal ash facilities), a detailed understanding of background geochemistry can be invaluable when explaining why changes in concentrations of inorganic constituents do not indicate a release.
- Owners of large coal ash surface impoundments should review the detailed information requirements that must be included in the initial reports under either the Subtitle C or Subtitle D approach. To the extent that required data (e.g., design factors of safety and geotechnical information) are lost or unavailable, it would be prudent to begin collecting it now, in advance of further rulemaking.

### **How SCS Can Help**

We help utilities manage coal ash, including investigations and remediation of releases from coal ash disposal sites, design of upgrades and closure for existing disposal impoundments and landfills, and design of new coal ash management facilities.

### **For more information contact:**

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Or contact your local SCS Engineers office.

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