

# EPA coal ash rule: What's next

The Environmental Protection Agency is proposing to regulate, for the first time, coal ash residuals (CCRs) under the Resource Conservation and Recovery Act (RCRA) to address risks from the disposal of CCRs generated at power plants across the nation. Two options are being considered: The first would reverse the EPA's previous rulings and, therefore, list CCRs as "special wastes" subject to Subtitle "C" under RCRA when they are destined for disposal in landfills or surface impoundments. The second - Subtitle "D" - would leave the current classification in effect but impose more stringent regulation on its disposal. Currently the states have the responsibility of regulating the disposal.

Before now, fly ash has been relatively non-controversial. That changed after a catastrophic failure of an impoundment of fly ash in December 2008 at the Kingston, Tennessee, power plant owned by the Tennessee Valley Authority. The failure sent coal fly ash slurry flowing into the Emory and Clinch rivers, covering up to 300 acres (1.2 km<sup>2</sup>) of the surrounding land and damaging homes. It was the largest fly ash release in United States history and agitated a national debate. While concern is warranted, the basis of public support for classification of CCRs as Subtitle "C" has little to do with the issues of fly ash and other CCRs. Instead, members of the public have expressed objections to the environmental and health impacts of coal mining, concerns about the generation of greenhouse gasses (most notably carbon dioxide), and objections to the use of coal in generating power. The only obvious consensus is that no more impoundments should be allowed to damage our environment as the Kingston event did.

What is the problem with further regulating fly ash under Subtitle "C"? The expressed intent of the EPA is to exempt fly ash from those regulations when it is used in concrete or for another beneficial use. In spite of the EPA's intent, there is considerable concern regarding the impact of the reclassification on the availability of fly ash for use in concrete production. Power companies and concrete industry officials claim that the stigma associated with Subtitle "C" (hazardous waste) will deter shipment and use of fly ash for production of concrete. The power companies have suggested that the liability of

shipping fly ash, plus any incidental "disposal" of fly ash at a concrete plant, make it a liability that is greater than its economic good. It is rumored that specifications are being revised to exclude fly ash in portland cement concrete, and that plans are being made to stop shipping fly ash to concrete production facilities. Unless we suddenly stop producing a significant amount of power, we will start sending a significantly larger amount of fly ash to non-beneficial storage sites.

How would cessation of the use of fly ash in concrete impact our society monetarily and environmentally?

1. Requiring producers to use cement as a substitute to fly ash would greatly increase the overall cost of concrete production.
2. Companies would be required to reject aggregate sources that are otherwise usable if fly ash (or an acceptable alternative) is not available. This will result in more mining of aggregates and longer hauls to get aggregates to concrete production facilities. Increased mining and transportation will increase greenhouse gas emissions for the production of concrete.
3. More portland cement will be consumed, thus significantly increasing the emission of carbon dioxide. For every ton of cement produced, about 0.8 ton of CO<sub>2</sub> is emitted. The CO<sub>2</sub> is generated by the fuel used to heat the raw materials in the cement kiln, and by the release of CO<sub>2</sub> from the limestone fed to the kiln. When fly ash replaces the cement, no CO<sub>2</sub> is emitted beyond that already released when the power was generated.
4. Cessation of the use of fly ash in concrete will not reduce the amount of fly ash produced at power plants. The amount of fly ash relinquished to useless stockpiles will increase. Along with the increased sizes of stockpiles will come increased land usage and long-term monitoring and maintenance of those stockpiles.
5. The cost of power will increase for the nation. Power companies now are paid for the use of fly ash in concrete. When that income disappears, our energy bills will rise. Moreover, the cost of fly ash disposal will increase, a cost that also would be passed on to the consumer.



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The implications of the new ruling would be felt across a wide range of industries. At CTL|Thompson's testing laboratory, for example, we would be required to "dispose" of fly ash samples after testing is completed, adding costs that would be borne by clients and, eventually, the end user.

The net result, then, of the proposed reclassification of CCRs under RCRA Subtitle "C" would be deleterious both for those in favor and against. It could cripple the concrete construction industry, it will have a net negative impact on our environment, it will raise the cost of providing electric power to homes and industries, it will hurt our economy, and, in the end, may not affect coal mining practices as hoped for by regulation supporters.