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After Risk Analyses, EPA 'Supports' Coal Ash Reuse in Concrete, Wallboard

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An EPA risk evaluation finds that concrete and wallboard made with coal combustion residuals (CCRs) such as coal ash pose no more harm to human health or the environment than the raw components the materials replace, leading the agency to conclude that it "supports" the reuse as it prepares to issue a final coal ash disposal rule by year's end.

EPA Feb. 7 [released](#) its new "Methodology for Evaluating Encapsulated Beneficial Uses of Coal Combustion Residuals" and an accompanying document, "Coal Combustion Residual Beneficial Use Evaluation: Fly Ash Concrete and [flue gas desulfurization (FGD)] Gypsum Wallboard," which applies the new methodology to those practices.

"The protective reuse of coal ash advances sustainability by saving valuable resources, reducing costs, and lessening environmental impacts, including reducing greenhouse gas emissions," Mathy Stanislaus, assistant administrator for EPA's Office of Solid Waste and Emergency Response, said in a Feb. 7 statement.

The [risk evaluation document](#) concludes that "environmental releases of constituents of potential concern (COPCs) from CCR fly ash concrete and FGD gypsum wallboard during use by the consumer are comparable to or lower than those from analogous non-CCR products, or are at or below relevant regulatory and health-based benchmarks for human and ecological receptors."

The [finding echoes](#) that of leach testing by Vanderbilt University researchers, published in the journal *Chemosphere* in December. Those studies concluded that the use of fly ash to replace Portland cement in concrete "causes minimal to no increases in leaching" of COPCs from concrete samples. EPA and the Electric Power Research Institute funded the research, which is referenced in the agency's new publications.

The new EPA evaluation document adds that "beneficial use of CCRs, when conducted in an environmentally sound manner, can contribute significant environmental and economic benefits." It adds, "Based on the conclusion of the analysis in this document stated above, and the available environmental and economic benefits, EPA supports the beneficial use of coal fly ash in concrete and FGD gypsum in wallboard."

The documents follow EPA's [release of a schedule](#) late last month for when the agency will issue its final rule on whether coal ash waste must be disposed as hazardous waste, controlled by subtitle C of the Resource Conservation Recovery Act (RCRA) or as general municipal waste, controlled by RCRA subtitle D.

Since EPA began evaluating coal ash disposal following the collapse of a Tennessee Valley Authority coal ash containment pond in late 2009, coal ash recyclers have protested that the stigma of the product being considered hazardous waste, and the resulting regulatory uncertainty from the long-stalled rulemaking process, have depressed their industry.

EPA notes that the new risk evaluation methodology is "voluntary, not regulatory, and is not a replacement for existing requirements for beneficial use determinations."

Still, recyclers are "applauding" the release of the agency's new documents.

"We appreciate EPA's effort in conducting this thorough evaluation of the safety of coal ash use," Thomas Adams, executive director of the American Coal Ash Association, said in a Feb. 7 statement. "This study reconfirms what we have learned through decades of successful beneficial use. Coal ash use is safe and should be encouraged."

The industry group notes that EPA in its response to the court "strongly signaled that those rules will avoid any 'hazardous waste' designation" and adds that the industry will use "this positive information to promote increased utilization of these strategic resources."

The reuse practice, however, has long concerned environmentalists and green building groups because coal ash contains COPCs such as arsenic, cadmium, chromium, lead and others. They have pressed for assessments of whether these constituents can somehow escape these encapsulated uses, and also have pressed for rules regarding how the materials are addressed when disposed of or demolished.

EPA's positive conclusions on CCR reuse in concrete and wallboard is based on its evaluation, using the new methodology. Assessors considered four potential pathways through which COPCs might be released from concrete or wallboard during their use by consumers: dust generation, "emanation to air," leaching into water sources and radioactive decay. EPA indicates that it relied on existing research to determine that it only needed to analyze emanation to air for wallboard re-use and could eliminate radioactive decay from its analysis of concrete.

The evaluation, however, adds the caveat that it "only addressed those products that meet relevant physical and performance standards established by voluntary consensus standard bodies;" that contain no more than 40 percent fly ash "and that incorporate fly ash and FGD gypsum from common pollution control devices used in the United States. This evaluation also did not address products that contain additional additives or industrial materials that may alter releases from the products." -- *Maria Hegstad* (mhegstad@iwpnews.com)

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