JONES DAY

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EPA PROPOSES SWEEPING REGULATION FOR COAL ASH DISPOSAL

On May 4, 2010, the United States Environmental Protection Agency ("EPA") proposed approaches for the regulation of Coal Combustion Residuals ("CCRs")[1] from the electric power sector. In so doing, EPA is reevaluating its August 1993 and May 2000 Bevill[2] regulatory determinations regarding CCRs generated at electric utilities and independent power producers. While the two basic approaches for regulating CCRs would depend on the same statute for authorization—the Resource Conservation and Recovery Act ("RCRA")—they differ widely in scope and expense. Either way, handling of fossil fuel combustion wastes at coal-fired power plants may be about to undergo a dramatic transformation.

1 Defined in the proposal as fly ash, bottom ash, boiler slag, and flue gas desulfurization materials destined for disposal.

2 The Resource Conservation and Recovery Act ("RCRA") § 3001(b)(3)(A)(i) (known as the Bevill exemption) excluded certain large-volume wastes generated primarily from the combustion of coal or other fossil fuels from being regulated as hazardous waste under Subtitle C of RCRA, pending completion of a report to Congress required by § 8002(n) and a determination by the EPA Administrator either to promulgate regulations under RCRA Subtitle C or to determine that such regulations are unwarranted.

WHAT IS COAL ASH?

Coal ash (sometimes referred to as fossil fuel combustion waste) is a generic term referring to the wastes generated by the process of burning coal. Large amounts of coal ash are generated from the combustion processes used to produce electricity. In 2008, coal-fired power plants produced 136 million tons of fossil fuel waste, up from the 62 million to 71 million tons generated annually in the mid-1990s.

Coal ash is generally disposed of in one of three ways. The most common method (34 percent or 46 million tons in 2008) is disposal in landfills. EPA categorizes any disposal of dry fossil fuel combustion waste on or in the land to be disposal by landfill. This would include disposal in piles, sand and gravel pits, quarries, and/or large-scale fill operations. Another significant method of disposal (23 percent or 26.2 million tons in 2008) is through the use of surface impoundments, or so-called ash ponds. Surface impoundments differ from landfills, in that the CCRs are stored "wet," mixed with water. Ash ponds can

be natural depressions, settling ponds, lagoons, aeration pits, or diked areas where free liquids are mixed with the CCRs. Sometimes, the liquid has been used as part of an air pollution control process to limit the amount or type of pollution emitted during combustion of the coal. Those pollutants captured in such liquids are disposed of in the surface impoundments, along with the coal ash. Often, disposal by landfill or in ash ponds occurs on-site. The third way for disposing of CCRs—through injection into caves or mines, is the least common method of disposal (in 2008, only 10.5 million tons, or nearly 8 percent of all coal ash, was disposed of in this manner).

BENEFICIAL USES

Significantly, under either approach, EPA is not proposing to withdraw the current Bevill exemption for coal combustion products that are "beneficially used."[3] Such uses could include waste stabilization, beneficial construction applications (*e.g.*, cement, concrete, brick and concrete products, road bed, structural fill, blasting grit, wallboard, insulation, and roofing materials), agricultural applications, and other uses (like absorbents, filter media, paints, plastics and metals manufacturing, and snow and ice control).[4] *See* EPA's 1999 Report to Congress for further discussion on beneficial uses for coal combustion products. In 2008, 50.1 million tons of coal ash generated, or nearly 37 percent, was handled as a beneficial use.

EPA applauds many of these beneficial uses, noting that any rule it devises should continue to encourage these types of applications for coal combustion wastes. The Agency points out that such uses reduce landfill capacity required for disposal and the need for other natural resources that are used in place of coal ash additives (like portland cement in concrete, mined gypsum in wallboard or stone, and gravel in concrete or road bed). Sometimes, use of coal ash even enhances natural additives, like in cement, where the use of fly ash increases the durability of concrete, enabling structures to last longer and require less new concrete for repair or replacement projects.

In regulating coal ash, EPA states that it does not intend to stigmatize or negatively affect the beneficial uses of such wastes. EPA specifically requests comments regarding the possible negative impacts of listing coal ash as a special waste under Subtitle C (typically that portion of RCRA that deals with hazardous wastes) and how to ensure that such listing will not reduce the beneficial uses of fossil fuel combustion wastes. However, while both options would retain the Bevill exemption, EPA is seeking comment on how to properly define beneficial uses. For example, EPA recognizes that smaller projects in unencapsulated applications, like fill for sand and gravel pits, may be a beneficial use. However, larger projects that use coal ash to modify the landscape, in so-called large-scale fill operations, may be waste disposal and not beneficial uses of such material. This distinction comes from EPA's concern that larger collections of fossil fuel products poses increased risks to human health and the environment not present in smaller projects. In the proposal, EPA seeks comments on distinguishing beneficial from nonbeneficial uses.

HISTORY OF COAL ASH REGULATION

Coal ash use and disposal has been studied by EPA for more than 20 years. In addition to several reports submitted to Congress, EPA has issued two Regulatory Determinations regarding coal ash. In 1988, EPA published a "Report to Congress on Wastes from the Combustion of Coal by Electric Utility Power Plants." In the report, EPA failed to complete its regulatory determination on fossil fuel combustion wastes. Pursuant to a 1991 lawsuit, EPA entered into a consent

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3 "Beneficial use" is defined generally as the use of coal combustion products that provide a functional benefit, replacing the use of an alternative material; conserve natural resources that would otherwise need to be obtained through practices such as extraction; and meet relevant product specifications and regulatory standards (where applicable). Coal combustion products that are used in "excess quantities" (an example given is the field application of flue gas desulfurization gypsum in amounts that exceed scientifically supported quantities required for enhancing soil properties and/or crop yields), that are placed as fill in sand and gravel pits, or that are used in large-scale fill projects, such as for restructuring landscape, are excluded.

4 Synthetic gypsum manufactured as part of the flue gas desulfurization process at power plants illustrates a basic principle in waste regulation law. Some materials never become solid wastes (a condition precedent for regulation as a hazardous waste), because they have never been "discarded." *See* RCRA § 1004(27). Instead, EPA notes that such materials are a useful product that would not be affected by either of the current proposals for regulating fossil fuel combustion wastes.

decree to complete its regulatory determination for fossil fuel combustion wastes, using two categories: (1) fly ash, bottom ash, boiler slag, and flue gas emission control waste from the combustion of coal by electric utilities and independent commercial power producers; and (2) all remaining wastes subject to the Bevill exemption, which included large volume coal combustion wastes generated at electric utility and independent power-producing facilities that are co-managed with other coal combustion wastes. On August 9, 1993, EPA published its regulatory determination for the first category of wastes, concluding that regulation under RCRA Subtitle C was not warranted.

After submitting another report to Congress on the second category of fossil fuel combustion wastes in March 1999, EPA published its regulatory determination on this category of wastes on May 22, 2000, concluding that while the Bevill exemption would be retained for such wastes, minimum national standards under RCRA Subtitle D would be established for coal combustion wastes that are disposed in landfills or surface impoundments (designated in this proposal as CCRs). EPA also stated in the 2000 Regulatory Determination that the Agency would review the decision made in 1993 to not regulate coal ash under RCRA Subtitle C. Specifically, EPA planned to review (1) the damage caused by CCRs to human health or the environment, (2) the adequacy of existing regulation, (3) the results of a study by the National Academy of Sciences regarding the adverse effects of mercury, and (4) the possible increased danger to human health and the environment due to pollution control under the Clean Air Act increasing the amount of toxins in the coal ash. For the last issue, there is concern that increased levels of toxins, such as mercury and arsenic, will become present in the coal ash due to pollution controls coming on line that capture these toxins in the coal ash rather than emitting them into the air. According to EPA, these captured pollutants could change the toxicity of the coal ash and thereby invalidate previous studies showing that the coal ash is of limited danger to human health and the environment. The Subtitle D standards contemplated in the 2000 Regulatory Determination were never issued.

On December 22, 2008, a dike at a surface impoundment at Tennessee Valley Authority's ("TVA") Kingston Fossil Plant in Harriman, Tennessee, failed. Approximately 5.4 million cubic yards of fly ash sludge were released over 300 acres in the surrounding area. TVA has estimated the cleanup costs will run $933 million to $1.2 billion. EPA estimates the costs to be closer to $3 billion when considering the costs of state, local, and federal government responses, ecological damage, and socio-economic damage in addition to the direct cleanup costs paid by TVA.

The TVA incident affected EPA's analysis of the issue (and perhaps the timing of this proposal). Current EPA Administrator Lisa Jackson was nominated by President Obama just one week before this incident. Shortly after her confirmation on January 22, 2009, Administrator Jackson announced that EPA would publish a coal ash rule. As part of the review of current information regarding coal ash, EPA determined that there were several coal ash incidents of which it was previously unaware. Overall, EPA has identified 13 proven damage cases and four cases of potential damage involving release of fossil fuel combustion wastes since it published the 2000 Regulatory Determination.

TWO PROPOSED OPTIONS

EPA is particularly interested in comments identifying findings from specific scientific studies. The proposal repeatedly requests comments on details such as the specific type and thickness of liners that will effectively prevent groundwater contamination, or the details and effectiveness of various state regulatory regimes. EPA has also identified several areas for further study where the science is not clear or has not been adequately researched.

REGULATION UNDER SUBTITLE C

Under the first approach, EPA would reverse its Bevill determination for CCRs, listing such wastes as "special wastes" to be regulated under Subtitle C. Thus, such wastes would be regulated from the point of generation to final disposition, including during and after closure of any disposal unit. Generator and transporter requirements for managing CCRs (such as siting, liners, run-on and runoff controls, groundwater monitoring, fugitive dust controls, financial assurance,

corrective action, closure, and post-closure care) would be called for. Facilities that dispose, treat, or in many cases store CCRs would have to obtain permits for the units where such activities occur. Land disposal restrictions and treatment standards for CCRs would also be imposed, as well as a general prohibition on the disposal of treated CCRs below the natural water table. Under the Subtitle C plan, EPA would phase out existing surface impoundments. The rule would require surface impoundments that were built before the rule was finalized, but not yet closed, to remove the CCRs and retrofit the impoundment with a composite liner. Similarly, new surface impoundments would be required to meet disposal requirements and be fit with liners. EPA's proposal would make surface impoundments prohibitively expensive, encouraging disposal in dry landfills. EPA is considering a modification to this first approach, which would not require the closure or installation of composite liners in existing surface impoundments, which could continue to operate for their useful life. Landfills would also be subject to increased regulation. All landfills would be required to monitor groundwater to detect contamination. Existing landfills would not be required to be retrofit with liners, but all new landfills would require composite liners. Requirements for dam safety and stability for impoundments that remain open after the effective date of the final rule are also being proposed.

EPA estimates that approximately two million tons of hazardous waste are disposed of annually in hazardous waste landfills and that the total capacity of U.S. hazardous waste landfills is between 23.5 million and 30.3 million tons. Comparing these numbers to the total amount of CCRs disposed of by power plants in just a single year, say 2008—approximately 85.9 million tons—one begins to conceive the magnitude of the first proposal offered by EPA.

REGULATION UNDER SUBTITLE D

Regulation under Subtitle D is a very different approach to the problem. Under the second approach, and in combination with its proposal to leave the Bevill determination in place, EPA would regulate CCRs under Subtitle D, establishing national criteria for the disposal of coal ash in landfills or surface impoundments. Such disposal units would be subject to, among other things, location standards, composite liner requirements (new landfills and surface impoundments would require composite liners; existing surface impoundments without liners would have to retrofit within five years or cease receiving CCRs and close); groundwater monitoring and corrective action standards for releases from the unit; closure and post-closure care requirements; and requirements to address the stability of surface impoundments. EPA is soliciting comments on requiring financial assurance under this option. Subtitle D does not provide for the same bonding or financial assurance requirements as those established in RCRA Subtitle C. While this means that EPA could not require these assurances under the Subtitle D option directly, EPA is considering a plan to require assurances from utility generators under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA") §108(b). This approach would not regulate the generation, storage, or treatment of CCRs prior to disposal and would not require permitting. Similar to the first approach, requirements for dam safety and stability for impoundments that remain open after the effective date of the final rule are being included in this option. While EPA could not enforce the requirements directly, EPA believes that states or citizens could enforce the requirements under RCRA citizen suit authority. States could, of course, enforce any state regulation pursuant to their independent state authority. EPA is also considering a potential modification to the Subtitle D option, called "D prime." Under this option, existing surface impoundments would not have to close or install composite liners but could continue to operate for their useful life. All other elements of the Subtitle D option would remain the same in this "D prime" modified approach.

COMPARISON OF THE OPTIONS

Regulation under Subtitle C would allow EPA to closely regulate and control CCRs. However, it would take a considerable amount of time to get the implementing regulations promulgated in every state. In addition, it is estimated that regulation under Subtitle C will be roughly three times as expensive as under Subtitle D.

While there is evidence that the additional expense under Subtitle C is unnecessary, in part because the states and industry are already effectively regulating and controlling

disposal of coal ash, events such as the December 2008 TVA accident may influence EPA to determine that state regulation has not provided adequate protection for human health and environment. In that case, Subtitle C gives EPA much more power to correct the problems. The increased enforcement mechanisms under Subtitle C will allow more flexibility and authority for EPA to directly regulate all aspects of CCR generation and disposal.

Below is a table prepared by EPA that shows some of the differences between the two proposed approaches.

DIFFERENCES BETWEEN SUBTITLE C AND SUBTITLE D OPTIONS

	SUBTITLE C	SUBTITLE D
Effective Date	Timing will vary from state to state, as each state must adopt the rule individually—can take 1–2 years or more.	Six months after final rule is promulgated for most provisions; certain provisions have a longer effective date.
Enforcement	State and federal enforcement.	Enforcement through citizen suits; states can act as citizens.
Corrective Action	Monitored by authorized states and EPA.	Self-implementing.
Financial Assurance	Yes.	Considering subsequent rule using CERCLA 108 (b) Authority.
Permit Issuance	Federal requirement for permit issuance by states.	No.
Requirements for Storage, Including Containers, Tanks, and Containment Buildings	Yes.	No.
Surface Impoundments Built Before Rule Is Finalized	Remove solids and meet land disposal restrictions; retrofit with a liner within five years of effective date. Would effectively phase out use of existing surface impoundments.	Must remove solids and retrofit with a composite liner or cease receiving CCRs within five years of effective date and close the unit.
Surface Impoundments Built After rule is finalized	Must meet Land Disposal Restrictions and liner requirements. Would effectively phase out use of new surface impoundments.	Must install composite liners. No Land Disposal Restrictions.
Landfills Built Before Rule Is Finalized	No liner requirements, but require groundwater monitoring.	No liner requirements, but require groundwater monitoring.
Landfills Built After Rule Is Finalized	Liner requirements and groundwater monitoring.	Liner requirements and groundwater monitoring.
Requirements for Closure and Post-Closure Care	Yes; monitored by states and EPA.	Yes; self-implementing.

COMMENTING ON THE PROPOSED RULES

EPA will be seeking comments on the proposed rules during the 90-day period after the proposed rules are published in the *Federal Register*. Comments on the proposed rules can be submitted electronically at www.regulations.gov; via email to rcradocket@epa.gov, Attention Docket ID No. EPA-HQ-RCRA-2009-0640; via fax to 1.202.566.0272, Attention Docket ID No. EPA-HQ-RCRA-2009-0640; or via mail to the following address:

Hazardous Waste Management System
Identification and Listing of Special Wastes
Disposal of Coal Combustion Residuals
From Electric Utilities Docket
Attention Docket ID No. EPA-HQ-RCRA-2009-0640
U.S. Environmental Protection Agency
Mailcode: 5305T
1200 Pennsylvania Ave. N.W.
Washington, DC 20460

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