

Proposed Changes to Federal Coal Ash Regulations Following the 2008 Kingston Fossil Plant Coal Ash Spill

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Introduction

The environmental implications of coal ash have come into the national spotlight in the wake of the December 22, 2008 spill at the Tennessee Valley Authority's (TVA) Kingston, Tennessee Fossil Plant.¹ The coal ash spill destroyed homes and personal property,² and has led to much litigation.³ In the wake of the spill, the Environmental Protection Agency (EPA) proposed revisions to hazardous waste regulation under the Resource Conservation and Recovery Act (RCRA), which include new standards for coal ash.⁴ The EPA-proposed revisions to RCRA are significant in part because regulation of coal ash generation and disposal has traditionally been left to the states.⁵ This paper will: (1) give an introduction to coal ash, its uses and environmental impacts; (2) provide a brief update of the on-going TVA litigation; and, (3) discuss the U.S. EPA's proposed changes to RCRA.

What is Coal Ash? Coal Ash Forms, Uses, and Impacts

Coal ash is a general term encompassing the byproducts of the coal combustion process.⁶ Coal ash can have consequences for both humans and wildlife when introduced into the

¹ In re Tennessee Valley Authority Ash Spill Litigation, Slip Copy, 2011 WL 3471000, at 1 (E.D. Tenn. Aug. 8, 2011).

² LISA EVANS, MICHAEL BECHER, & BRIDGET LEE, STATE OF FAILURE: HOW STATES FAIL TO PROTECT OUR HEALTH AND DRINKING WATER FROM TOXIC COAL ASH 4 (2011), *available at* <http://earthjustice.org/sites/default/files/StateofFailure.pdf>.

³ In re Tennessee Valley Authority Ash Spill Litigation, Slip Copy, 2011 WL 3471000, at 1 (E.D. Tenn. Aug. 8, 2011).

⁴ EVANS BECHER, & LEE, *supra* note 2, at 4.

⁵ *Id.*

⁶ *What is Coal Ash?*, UNIVERSITY OF NORTH DAKOTA, <http://www.undeerc.org/carrc/html/WhatisCoalAsh.html> (last visited Oct. 8, 2011).

environment.⁷ The EPA has found that coal ash can be composed of “antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver and thallium,”⁸ elements that have the capacity to negatively affect human health.⁹ Living near coal ash can increase one’s exposure to heavy metals, which can cause health problems.¹⁰ Elements from coal ash disposal sites can leach into local water supplies¹¹ years after disposal.¹² The presence of coal ash in the atmosphere also leads to human contact through inhalation, skin contact,¹³ and food ingestion.¹⁴

However, coal ash can be incorporated into products as well, thus providing a positive use for the ash.¹⁵ For example, a sizable amount of coal ash is recycled via its incorporation into building materials.¹⁶ The EPA states that there are many “significant environmental, economic, and performance benefits” that result from the use of coal combustion products (CCPs), also called coal combustion residuals (CCRs).¹⁷ During the combustion process, four types of CCPs are created: (1) fly ash, (2) bottom ash, (3) boiler slag, and (4) flue gas desulfurization gypsum.¹⁸ Fly ash can be used in construction applications, such as cement or grout.¹⁹ Bottom ash, which is

⁷ Steven T. Moon & Amanda B. Turner, *Coal Ash Law and Regulation in the United States: An Overview*, 18 SOUTHEASTERN ENVTL. L.J. 173, 176 (2010).

⁸ Env’tl. Prot. Agency, Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities, 75 Fed. Reg. 35128 (proposed June 21, 2010), *available at* <http://www.epa.gov/wastes/nonhaz/industrial/special/fossil/ccr-rule/frn-corrections.pdf>, at 24.

⁹ BARBARA GOTTLIEB, STEVEN G. GILBERT, & LISA GOLLIN EVANS, COAL ASH: THE TOXIC THREAT TO OUR HEALTH AND ENVIRONMENT vi (2010), *available at* <http://prairierivers.org/wp-content/uploads/2011/02/coal-ash.pdf>

¹⁰ *Id.*

¹¹ *Id.*

¹² Moon & Turner, *supra* note 7, at 177.

¹³ *Id.*

¹⁴ Coal ash can cause a bioaccumulation of metals in aquatic organisms if it reaches water, which is the transferred to humans upon ingestion. *Id.* at 174.

¹⁵ *Coal Combustion Products*, U.S. ENVIRONMENTAL PROTECTION AGENCY, <http://www.epa.gov/wastes/conserves/rrr/imr/ccps/index.htm> (last visited Oct. 8, 2011).

¹⁶ For example, “[b]y 2000, in the United States, ‘one-quarter of all coal combustion wastes [were] diverted to beneficial uses.’” Moon & Turner, *supra* note 7, at 182.

¹⁷ *Coal Combustion Products*, U.S. ENVIRONMENTAL PROTECTION AGENCY, <http://www.epa.gov/wastes/conserves/rrr/imr/ccps/index.htm> (last visited Oct. 8, 2011).

¹⁸ Moon & Turner, *supra* note 7, at 174.

¹⁹ *Fly Ash*, U.S. ENVIRONMENTAL PROTECTION AGENCY, <http://www.epa.gov/wastes/conserves/rrr/imr/ccps/flyash.htm> (last visited Oct. 8, 2011).

heavier than fly ash and “falls to the bottom of the furnace” following combustion,²⁰ can be used in concrete or otherwise as filler material.²¹ Typically, the byproducts of the coal combustion process are most commonly used in cement, which has been found to be generally safe to use²² as the heavy metals are contained within the concrete and do not generally leach.²³ Boiler slag is bottom ash from cyclone furnaces that forms into hard granules when drenched in water; this product can be used as an ingredient in asphalt.²⁴ Finally, flue gas desulfurization gypsum, known as “FGD gypsum,” is a byproduct from the “scrubbing” process, which involves the application of a lime agent to remove sulfur from the flue gas emitting from a coal plant’s boilers.²⁵ This reaction of sulfur and the scrubbing substances result in FGD gypsum,²⁶ a product used to create wallboard.²⁷

TVA Coal Ash Spill

On December 22, 2008, the Tennessee Valley Authority’s containment wall holding coal ash in a disposal pond failed, spilling one billion gallons of coal ash onto three hundred acres of land in Roane County, Tennessee.²⁸ The coal ash reached Tennessee’s Emory and Clinch Rivers and destroyed property on adjacent land.²⁹ The wall failure subsequently caused an environmental catastrophe, as the rivers were inundated with ash, killing fish and injuring the

²⁰ GOTTLIEB, GILBERT, & EVANS, *supra* note 9, at vii.

²¹ *Bottom Ash*, U.S. ENVIRONMENTAL PROTECTION AGENCY, <http://www.epa.gov/wastes/conserves/rrr/imr/ccps/bottomash.htm> (last visited Oct. 8, 2011).

²² Moon & Turner, *supra* note 7, at 179.

²³ *Id.*

²⁴ *Boiler Slag*, U.S ENVIRONMENTAL PROTECTION AGENCY, <http://www.epa.gov/osw/conserves/rrr/imr/ccps/boilslag.htm> (last visited Oct. 8, 2011).

²⁵ *Id.*

²⁶ GOTTLIEB, GILBERT, & EVANS, *supra* note 9, at vii.

²⁷ Env'tl. Prot. Agency, *Flue Gas Desulfurization Material*, <http://www.epa.gov/wastes/conserves/rrr/imr/ccps/fgd.htm> (last visited Oct. 8, 2011).

²⁸ GOTTLIEB, GILBERT, & EVANS, *supra* note 9, at v.

²⁹ Press Release, Env'tl Prot. Agency, EPA Announces New Action to Prevent Coal Ash Releases (Mar. 9, 2009).

riverine ecosystem.³⁰ Additionally, three homes were completely destroyed, while twenty-one others were damaged as a result of the incident.³¹ Following the spill, several lawsuits were brought by victims of the spill, accusing TVA of negligence in relation to the Kingston dike failure.³² After three long years of preliminary motions and pre-trial litigation, fifty-four cases were able to move forward for trial in the fall of 2011.³³

TVA Spill Impacts on Federal Regulation of Coal Ash

In early 2009, shortly after the TVA spill, the EPA announced it was “moving forward quickly to develop regulations to address the management of coal combustion residuals (CCRs).”³⁴ The EPA emphasized that its new policy was directly influenced by the TVA disaster, and that it hoped to have “the proposed rule ready for comment by the end of the year [2009].”³⁵ The tragic consequences of the TVA coal ash spill have highlighted the need to assess the efficacy of coal ash regulation, particularly in regards to coal ash disposal.

As of August 2011, Earthjustice reported that the EPA was still investigating whether to federally regulate coal ash under RCRA.³⁶ The EPA offers two paths for revision of RCRA rules.³⁷ The first path under subtitle C would “reverse [the] August 1993 and May 2000 Bevill Regulatory Determinations, which exempt coal byproducts from regulation.”³⁸ This path employs a cradle-to-grave approach and regulates coal byproducts as a hazardous waste,³⁹ a

³⁰ *Id.*

³¹ GOTTIEB, GILBERT, & EVANS, *supra* note 9, at v.

³² In re Tennessee Valley Authority Ash Spill Litigation, Slip Copy, 2011 WL 3471000, at 1 (E.D. Tenn. Aug. 8, 2011).

³³ *Id.*

³⁴ Press Release, Env'tl Prot. Agency, EPA Announces New Action to Prevent Coal Ash Releases (Mar. 9, 2009).

³⁵ *Id.*

³⁶ EVANS, BECHER, & LEE, *supra* note 2, at 4.

³⁷ Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities, 75 Fed. Reg. 35128 (proposed June 21, 2010), *available at* <http://www.epa.gov/wastes/nonhaz/industrial/special/fossil/ccr-rule/frn-corrections.pdf>, at 1.

³⁸ *Id.*

³⁹ *Id.* at 14.

more strictly regulated type of solid waste. The new rules would apply to all CCRs originating from power producers with the exception of minefill material.⁴⁰ The regulation of coal ash would no longer be regulated by state law.⁴¹

The second path leaves “the Bevill determination in place and regulates disposal of such materials under subtitle D of RCRA governing solid waste, by issuing national criteria.”⁴² This approach would *not* be cradle-to-grave, meaning that *generation* of coal CCRs would not be regulated.⁴³ This approach would still rely on some facets of individual state regulation, in that states would be able to enforce their regulations while meeting the federal minimum criteria of “safe disposal.”⁴⁴ This rule revision would primarily focus on CCR disposal, and would not require permits.⁴⁵

Though both paths of rule revision propose higher requirements than those of the Bevill Determination,⁴⁶ it is clear that the second path, which includes revision under subtitle D, would be closer to the status quo in its less-stringent requirements. As a result, this approach has encountered criticism by environmental advocacy groups who prefer the more stringent cradle-to-grave approach.⁴⁷ Earthjustice points to the fact that states have resisted regulating coal ash for decades; they argue that under the subtitle D approach “less than half of the total ash generated in the U.S.” will be adequately regulated.⁴⁸

⁴⁰ *Id.* at 3.

⁴¹ *DSW Rulemakings for RCRA Hazardous Waste Regulations: Definition of Solid Waste*, U.S. ENVIRONMENTAL PROTECTION AGENCY, <http://www.epa.gov/wastes/hazard/dsw/rulemaking.htm> (last visited Oct. 6, 2011).

⁴² Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities, 75 Fed. Reg. 35128 (proposed June 21, 2010), *available at* <http://www.epa.gov/wastes/nonhaz/industrial/special/fossil/ccr-rule/frn-corrections.pdf>, at 1.

⁴³ *Id.* at 15.

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ *Id.* at 1.

⁴⁷ EVANS, BECHER, & LEE, *supra* note 2, at 4.

⁴⁸ *Id.*

Additionally, the EPA's proposed plan to federally regulate coal ash appears to be controversial within Congress. In October 2011, the House of Representatives passed H.R. 2273, known as the Coal Residuals Reuse and Management Act.⁴⁹ H.R. 2273 adds Section 4011, "Management and Disposal of Coal Combustion Residuals," to subtitle D of the Solid Waste Disposal Act (RCRA), which would establish state programs to regulate CCRs.⁵⁰ If enacted, the bill would allow "the Governor of each State [to] notify the Administrator, in writing, whether such State will adopt and implement a coal combustion and residuals program."⁵¹

H.R. 2273 would limit the EPA's authority and oversight over CCRs by requiring the EPA to defer to state programs.⁵² Additionally, the bill would allow regulation of coal waste under RCRA standards published in the EPA's "Notice of Regulatory Determination on Wastes from the Combustion of Fossil Fuels" in 2000.⁵³ Specifically, the notice *does not* regulate CCRs under subtitle C of RCRA.⁵⁴ Thus, the bill would effectively block the EPA's current efforts to federally regulate coal ash⁵⁵ under the more recently proposed revisions to subtitles C or D.

As of October 2011, the EPA was still seeking public comments on the proposed changes to RCRA.⁵⁶ The EPA plans to make a final decision regarding federal regulation of coal ash by December 31, 2012.⁵⁷ However, the EPA's proposed changes could likely be complicated or nullified if H.R. 2273 becomes law.

⁴⁹ Coal Residuals Reuse and Management Act, H.R. 2273, § 1 (2011).

⁵⁰ *Id.* at § 2(a).

⁵¹ *Id.*

⁵² *House Passes Coal Ash Measure*, THE NEW YORK TIMES, <http://www.nytimes.com/2011/10/15/us/house-passes-coal-ash-measure.html> (last visited Jan. 5. 2012).

⁵³ Coal Residuals Reuse and Management Act, H.R. 2273, § 3 (2011).

⁵⁴ *Id.*

⁵⁵ *House Passes Coal Ash Measure*, THE NEW YORK TIMES, <http://www.nytimes.com/2011/10/15/us/house-passes-coal-ash-measure.html> (last visited Jan. 5. 2012).

⁵⁶ EVANS, BECHER, & LEE, *supra* note 2, at 4.

⁵⁷ EPA, *supra* note 59.

Conclusion

Undoubtedly, the TVA Kingston ash spill constituted a significant environmental catastrophe that has spurred the EPA's consideration of a new regulatory approach to the byproducts of coal fired power production. Although the proposed changes to RCRA by the EPA and the House of Representatives are pending, it is increasingly uncertain whether a federal standard of oversight of coal ash disposal will emerge in the future.