Legal Considerations Pertaining to Use and Disposal of Coal Combustion By-Products

Laura D. Keller
William T. Gorton III
Stites & Harbison
Lexington, Kentucky

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§ 11.01. Introduction.

Coal is the most significant fuel source for electrical power generation, accounting for more than 50 percent of electricity produced in the United States.\(^2\) In its recent report to Congress\(^3\) on wastes from the combustion of fossil fuels, the United States Environmental Protection Agency (EPA) reported that utility coal usage results in the generation of approximately one hundred million tons of large volume coal combustion by-products each year.\(^4\) EPA reports that non-utility or industrial coal combustion units generate an additional six percent (six percent) of that amount.\(^5\) The U. S. Department of Energy has indicated that although limited new coal-fired capacity is expected through 2020, coal consumption by utilities is expected to increase due to increased utilization of existing generating capacity.\(^6\) Although the Department of Energy projects only modest growth in coal use by non-utilities, the DOE forecasts do not project a decrease in the generation of coal combustion byproducts. Therefore, a significant quantity


\(^5\) The non-utility sector encompasses a wide variety of industrial, commercial and institutional facilities. Some of these facilities use fossil fuels to generate power, heat or steam for use in the manufacturing process, while others, including retail, assembly, warehouse and office establishments, utilize coal for heating, cooling, ventilating, lighting, cooking, refrigeration and powering office equipment.

\(^6\) Id.
of such material generated within the United States must be handled and disposed or utilized within the framework of applicable environmental laws.

The regulatory status of CCBs has been the subject of significant review at the federal level and is evolving at different rates at the individual state levels. Recent trends in disposal and utilization of CCBs include disposal at surface coal mines and beneficial use in abandoned mine reclamation. These practices have come to the attention of the EPA in its rulemaking procedures. Depending on the type of facility generating the CCBs and its location, regulation of CCBs may vary from facility to facility. Further, depending on the waste management practices of the generator, a facility operator may become subject to unanticipated environmental liability.

The following discussions address how CCBs are treated under major federal environmental statutes and their state counterparts. Each discussion provides the background and general regulatory framework regarding the particular statute, followed by a discussion of its applicability to CCBs. The major federal statutes reviewed include the following: the Resource Conservation and Recovery Act (RCRA);\(^7\) the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA or Superfund);\(^8\) and the Clean Air Act (CAA)\(^9\) and the Federal Clean Water Act (CWA) as they pertain to the use and management of CCBs at surface mine sites.\(^10\) The chapter concludes with an overview of the beneficial use of CCBs in abandoned mine reclamation.

\section*{\textsection 11.02. RCRA — Regulation of “Hazardous Waste.”} 
\[1\] — Regulatory Framework.

Most, but not all, CCBs currently enjoy a “special status” under RCRA and are excluded from regulation under the statute. The following discussions provide a framework for understanding how CCBs are regulated and what types of CCBs are still of questionable status under RCRA.

RCRA was enacted in part to ensure the safe management of hazardous waste from the point of generation to the point of final disposal. RCRA is often referred to as the act that regulates hazardous waste “from cradle to

\footnotesize{\begin{itemize}
\item \textsection 11.02\footnote{42 U.S.C. §§ 6901-6992.}
\item \textsection 9601-9675.\footnote{42 U.S.C. §§ 9601-9675.}
\item § 7401.\footnote{42 U.S.C. § 7401.}
\item §§ 1251-1387.\footnote{33 U.S.C. §§ 1251-1387.}
\end{itemize}}
grave.” Generators, those persons whose act or process produces hazardous waste or first causes it to become subject to regulation, must comply with various recordkeeping, labeling, waste accumulation, and safe management standards applicable to the site where the waste is generated. They must also prepare manifests to track their hazardous waste to its ultimate destination.\textsuperscript{11} Transporters of hazardous waste are likewise subject to their own regulatory program.\textsuperscript{12}

The most stringent regulations are reserved for treatment, storage and disposal facilities (TSDFs), which are subject to comprehensive permitting, closure and post-closure standards.\textsuperscript{13} Under RCRA, if a TSDF becomes the subject of an enforcement action, its owners and operators are the primary liable parties.\textsuperscript{14} They may be assessed civil penalties and be ordered to perform corrective action to address environmental problems, including pumping and treating groundwater and removing contaminated soil. Under RCRA, a mere generator of the waste would not ordinarily be liable for cleanup of the TSDF to which its waste was sent, although EPA (but not all states) does have authority to pursue generators who “contribute to management and disposal of hazardous waste which presents an imminent or substantial danger to public health or the environment.”\textsuperscript{15}

If CCBs were determined to be hazardous wastes,\textsuperscript{16} disposal at a TSDF would be subject to a comprehensive permitting process involving two separate applications; closure and post-closure plans, demonstrations of financial assurance to cover closure and post-closure activities, demonstration of insurance to cover third party liabilities, and very detailed technical review and approval.\textsuperscript{17} Hazardous waste landfills are subject to stringent groundwater monitoring and corrective action requirements, and

\begin{itemize}
\item \textsuperscript{11} 40 C.F.R. Part 262.
\item \textsuperscript{12} 40 C.F.R. Part 263.
\item \textsuperscript{13} 40 C.F.R. Parts 264, 265, 267-270.
\item \textsuperscript{14} 42 U.S.C. § 6924(a).
\item \textsuperscript{15} 42 U.S.C. § 6973(a). The EPA would ordinarily file an action for injunctive relief under Section 6973 only if the owner/operator of the TSDF could not perform corrective action itself and its financial assurance to cover closure and post-closure was inadequate.
\item \textsuperscript{16} See discussion below at § 11.02[2].
\item \textsuperscript{17} 40 C.F.R. §§ 270.13, 270.14.
\end{itemize}
Coal combustion by-products must be lined and capped. Indeed, the RCRA program is among the most comprehensive and expensive of all environmental programs.

The central operative term under RCRA is “hazardous waste.” The EPA has devoted an entire chapter of its regulations on determining whether a material is a hazardous waste. To be a “waste,” the material must be “sometimes discarded”; it is not necessary that it be intended to be discarded in a specific instance. Ordinarily residues from pollution control devices and by-products are considered wastes, although exceptions sometimes apply when they are recycled.

Once it is determined that a material is a waste, it will be considered a hazardous waste if it is expressly listed as one of over 700 substances expressly identified by EPA as hazardous waste (listed wastes), or if it exhibits one or more of four characteristics: ignitability, corrosivity, reactivity or toxicity (characteristic wastes). Ordinarily CCBs exhibit none of these characteristics.


[a] — Background.

Coal combustion residues have escaped regulation under RCRA from the outset. After proposing in its initial regulations to regulate certain “special wastes” generated in large volumes and thought to pose a low hazard, in May 1980, EPA deferred regulation of fossil fuel combustion wastes in its final rules. On October 21, 1980, Congress amended RCRA, partially by enactment of the Bevill Amendment. The amendment provided that a number of wastes, including “[f]ly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion

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19 40 C.F.R. Part 261.
20 40 C.F.R. § 261.2.
21 See 40 C.F.R. Part 261, Subpart D for complete list.
22 A waste exhibits the characteristic of toxicity if an extract of the waste contains certain contaminants above a given concentration level. These contaminants include the “RCRA metals”: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. 40 C.F.R. Part 261.24. Coal combustion by-products ordinarily have concentrations of these metals below the trigger levels. See discussion below at § 11.02[2].
of coal or other fossil fuels,” should not be subject to RCRA regulation until at least six months after EPA had completed certain studies of the potential adverse effects of CCB disposal and utilization. EPA submitted its Report to Congress (RTC) in February 1988. In 1991 a suit was filed against EPA for failure to complete a regulatory determination on fossil fuel combustion wastes and the agency entered into a consent decree which established a schedule for EPA to complete the regulatory determinations. EPA belatedly issued a regulatory determination on August 9, 1993. Two categories of fossil fuel wastes were defined for the regulatory process: (1) large volume waste streams and (2) remaining wastes.

[b]— EPA’s 1993 Determination that Large Volume CCBs Are Not Hazardous Wastes Under RCRA.

In its 1993 regulatory determination, EPA discussed its study of four large-volume ash waste streams: fly ash, bottom ash, boiler slag, and flue gas emission control wastes. The agency concluded that, because of the limited risks posed by these ash wastes, and the existence of generally adequate state and federal regulatory programs dealing with them, regulation of these wastes under Subtitle C (the hazardous waste requirements) of RCRA was “unwarranted.” EPA found that these four large-volume wastes generally do not exhibit RCRA hazardous waste characteristics, and that current NPDES requirements and waste management practices enforced by the states appear adequate to protect human health and the environment.

24 In 42 U.S.C. Section 6982(n) Congress required EPA to conduct a “detailed and comprehensive study and submit a report on the adverse effects on human health and the environment, if any, of the disposal and utilization of fly ash waste, bottom ash waste, slag waste, flue gas emission control waste, and other by-product materials generated primarily from the combustion of coal or other fossil fuels.”
26 Gearhart v. Reilly, Civil Action No. 91-2345 (D.D.C.)
29 In fact, only three metals, cadmium, chromium, and arsenic, were detected in any ash or sludge samples above toxicity characteristic levels, and then only infrequently. 58 Fed. Reg. 42,468 (1993).
EPA’s determination, however, does not cover all CCBs for which there is commercial interest.


There are limitations in EPA’s 1993 regulatory determination that are problematic for the commercial entities involved with ash management. The predominant issue relates to those CCBs that are not excluded from RCRA regulations at this time. These “other” CCBs are referred to as “remaining wastes.”

The 1993 EPA determination was limited to four “large-volume wastes generated by coal-fired units at steam electric utility power plants in the United States, including independent power producers not engaged in any other industrial activity.” These do not include CCBs produced by non-utility boilers, nor do they include “remaining wastes,” such as:

a. Fluidized bed combustion (FBC) wastes;

b. Low-volume wastes such as boiler blowdown, coal pile runoff, cooling tower blowdown, demineralizer regenerant rinses, metal and boiler cleaning wastes, pyrites, and sump effluents;

c. Large-volume wastes when managed with low-volume wastes (co-managed wastes); and

d. Most large-volume wastes generated in units that burn substantial amounts of non-coal fuel, with some exceptions.

The prospect of further regulation of these remaining wastes was determined to depend in large part on further study by EPA. Under the Gearhart consent decree the agency recently completed its report to Congress regarding remaining wastes and was to issue the regulatory determination by October 1, 1999, a deadline now extended as discussed below.

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30 A second issue problematic to the industry was EPA’s rejection of suggestions that coal combustion residues be considered “useful products,” and not wastes at all. EPA determined that only 1/5 of coal combustion residues were actually reused and that most were disposed of in landfills or impoundments.

31 58 Fed. Reg. 42,469 (1993)(burning of oil or natural gas in small quantities for start-up or flame stabilization would not disqualify the CCB).

In its March 1999 Report to Congress, EPA addressed the issue of remaining wastes from fossil fuel combustion, including the following: co-managed coal combustion waste from utilities and non-utilities, co-burned coal combustion waste from utilities and non-utilities, and waste from Fluidized Bed Combustion (FBC) technologies.\(^{32}\) In the report, EPA tentatively concluded that these remaining wastes should remain exempt from RCRA Subtitle C. EPA determined that to require coal combustion units to obtain Subtitle C permits would unnecessarily duplicate existing state requirements, and otherwise, that new requirements would most often be in excess of what is necessary to protect human health and the environment.\(^{33}\) Likewise, the Agency has tentatively concluded that most beneficial uses for these wastes should remain exempt from RCRA Subtitle C.\(^{34}\)

The findings and tentative conclusions in the March 1999 EPA Report to Congress are subject to the issuance of a final EPA regulatory determination which was to be issued by October 1, 1999. The Consent Decree was subsequently modified to extend the comment period and to allow EPA until March 10, 2000, to complete the regulatory determination.\(^{35}\) While it is likely that EPA will follow the recommendations of its March 1999 Report with respect to low volume CCB waste and FBC waste, two areas of concern remain.

[i] — Concerns over Arsenic Exposure in Agricultural Applications.

In its March 1999 Report to Congress, EPA stated that it was tentatively considering subjecting practices involving agricultural uses of CCBs to


\(^{33}\) Id. at 3-5, 4-3, 5-3.

\(^{34}\) Id. at 3-6, 4-4, 5-3.

some form of regulation under Subtitle C.\textsuperscript{36} The Agency stated that risks identified with this practice were of growing concern given the increasing trend of agricultural applications of these wastes. Particularly, the Agency identified the potential risk of exposure to arsenic in agricultural applications.\textsuperscript{37}

However, the Report also stated that the imposition of controls under Subtitle C might not be warranted in light of potential voluntary industry controls. EPA has requested comment on its tentative conclusion and specific approaches that could be pursued to address this issue.

[ii]— Concerns over Minefill Applications.

On a point very important to the coal industry, in its March 1999 Report to Congress EPA stated that it was unable to adequately assess risk associated with minefilling applications because it lacked sufficient information.\textsuperscript{38} EPA indicated that the practice of minefilling was difficult to assess because there are often pre-existing environmental concerns at mine sites, such as acid mine drainage. The EPA also stated that because mine-filling situations frequently must be assessed on a site-specific level due to these pre-existing concerns, national standards may not be preferable.\textsuperscript{39}

EPA has requested information and comments on current mine-filling operations, specifically to determine if some practices are universally poor and warrant a national standard. EPA has also requested information on any other environmental concern associated with this practice, and any modeling tool that can simulate fractured flow conditions and predict alkalinity consumption by acid mine drainage intrusion into combustion wastes. EPA will consider comments and information in the formulation of its final regulatory determination now due on March 10, 2000.

\textsuperscript{36} An example cited by EPA of one form of control under RCRA would be to limit the content of such materials such that arsenic concentrations could be no higher than agricultural lime. Report to Congress, \textit{supra} note 29, at 3-6.

\textsuperscript{37} \textit{Id.} at 3-6, 4-4, 5-4.

\textsuperscript{38} \textit{Id.} at § 3-7. EPA’s concerns primarily relate to potential risks that may be posed via ground water and surface pathways.

\textsuperscript{39} \textit{Id.}

Though it is unlikely in light of its March 1999 Report, the possibility remains that EPA may decide that certain “remaining wastes” should be considered “hazardous wastes.” Therefore, the issue of prospective risk under RCRA arises regarding the future status of any FBC ash or co-managed residues already placed at a storage/disposal site before the 1999 deadline. In other words, does ash that was placed at a site as a solid or special waste become subject to all of the regulations applicable to hazardous waste landfills by virtue of a future EPA determination?

EPA has not stated how it would deal with ash suddenly listed as a hazardous waste, but past practice indicates that wastes placed before any hazardousness determination would not be subject to direct Subtitle C (hazardous waste) controls; the listing of a waste ordinarily does not have retroactive effect. This practice was discussed in 1989, when EPA reinterpreted the Bevill Amendment to cover certain smelter wastes (mineral processing wastes) which were previously not considered hazardous wastes. In a preamble to the regulations listing the smelter wastes, EPA stated:

. . . [The] final rule does not impose Subtitle C requirements (such as those for closure and post-closure care) on mineral processing wastes that were disposed prior to the effective date of today’s rule, unless they are actively managed after the effective date. This provision ensures that those mineral processing wastes that were originally excluded from subtitle C under the Bevill exclusion, and are now considered hazardous under the reinterpretation of the Bevill exclusion, are not subject to subtitle C requirements if the wastes were disposed prior to the effective date of the final rule. EPA is maintaining its proposed approach largely because of its long-standing policy of not regulating wastes under RCRA that were disposed prior to the effective date of a rule covering those wastes. See, e.g., 45 FR 33066.40

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A pivotal term in this statement of policy is “actively managed.” Because several commenters requested clarification of the term “active management” concerning the smelter waste listing, EPA undertook to explain the term:

For purposes of this rule, EPA views active management as physically disturbing the accumulated wastes within or disposing additional non-Bevill [i.e., newly listed] hazardous wastes into existing waste management units after the effective date of this rule. EPA does not intend to bring under subtitle C regulation existing waste management units containing wastes now identified as non-Bevill to which only Bevill wastes or other non-hazardous solid wastes are subsequently added (i.e., this practice will not constitute active management of the non-Bevill waste(s)).

Under EPA’s policy, an owner/operator would be allowed to place additional non-hazardous wastes (e.g., the large-volume fly ash, bottom ash, etc. already determined not to be hazardous) on a landfill containing newly listed hazardous ash, but the newly listed ash previously placed there could not be physically disturbed without triggering RCRA hazardous waste standards. Thus, if a company had placed FBC wastes and co-managed wastes at a site and EPA subsequently determined them to be hazardous, it

41 Id. EPA explained: “For example, a waste management unit receiving a high volume slag excluded from Subtitle C regulation under today’s rule may continue to receive additional slag (or other non-hazardous or Bevill waste stream) even if it has also received (prior to the effective date of the rule) hazardous waste now identified as non-Bevill, provided that no additional non-Bevill wastes that exhibit characteristics of hazard or are listed as hazardous are managed in these units. Continued use of an existing unit after the effective date of this rule for treatment, storage, or disposal of additional quantities of a newly listed or characteristic hazardous waste will be considered active management and will subject the entire unit and its contents to Subtitle C regulation.” Id.

42 Because federal environmental laws allow states to promulgate regulations more stringent than federal regulations, it would be necessary to check with each individual state concerning what “active management” would trigger hazardous waste closure and post-closure regulations, if EPA later determines that wastes already placed at a site are hazardous.

43 There is one, albeit narrow, caveat. The preamble to the proposed listing of the smelter wastes discussed above stated: “The waste management units that contain these wastes
could finish out the landfill as a solid waste facility with non-hazardous fossil fuel combustion wastes but not with any newly listed waste.\textsuperscript{43}

§ 11.03. CERCLA Regulation of Released “Hazardous Substances.”


In 1980 Congress enacted CERCLA, or Superfund, primarily to address abandoned contaminated sites not covered by the hazardous waste provisions under RCRA. The scope of the law is considerably broader, however, and covers new spills and releases as well as those at abandoned sites.

CERCLA is administered primarily by the EPA, although most states have “mini-Superfund” laws.\textsuperscript{44} EPA may either perform a cleanup on its own with monies appropriated by Congress to the Superfund and then sue other potentially responsible parties (PRPs) in a cost recovery action, or may issue an administrative order or seek a court order directing a responsible party to undertake a cleanup. A private party incurring response costs under Superfund may also sue other PRPs for reimbursement in a private cost recovery or contribution action.

Under Superfund, there are four categories of “responsible parties:”

(1) Current owners and operators of a facility;

(2) Any person who owned or operated the facility at the time of disposal of a hazardous substance;

(3) Persons who arranged for disposal or treatment of a hazardous substance at the facility (typically the generator); and

(4) Any person who accepted a hazardous substance for transport to a facility selected by such person.\textsuperscript{45}

Persons (including individuals, corporations, partnerships and political entities) who fall into these categories, with a few exceptions, are subject to strict, joint and several liability. In other words, liability under CERCLA


\textsuperscript{45} 42 U.S.C. § 9607(a) (1)-(4).
COAL COMBUSTION BY-PRODUCTS

may be imposed against any responsible party without regard to fault, for all of the costs of cleanup, even if that person’s actual contribution to the problem was minimal. The responsible parties may then attempt to apportion the costs among themselves, based on volume or toxicity of the waste(s) each sent to the site or other equitable factors.

To prove liability in a Superfund case, the plaintiff must demonstrate the following elements:

1. That the site involved is a “facility”;
2. That a “release” or a “threatened release” of any hazardous substance from the facility has occurred;
3. That the release or threatened release caused the plaintiff to incur necessary response costs consistent with the National Contingency Plan (or not inconsistent with the Plan, when the government is the plaintiff); and
4. That the person charged falls within one of the four categories of responsible parties listed above.

These elements of liability can be applied to a company receiving ash in a landfill on property owned by the company. First, although coal ash is not a hazardous waste under RCRA, it could be, and has been, considered a “hazardous substance” under CERCLA, according to numerous courts’ narrow interpretation of the exemptions under CERCLA. Under the interpretations as discussed below, a landfill containing ash could be considered a “facility.” A “release” could be found to have occurred if

46 “Facility” means (A) any building, structure, installation, equipment . . ., pit, pond, lagoon, impoundment, ditch, landfill, storage container . . . or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located. . . . 42 U.S.C. § 9601(9). The definition of facility has been held to be broad enough to “reach both the parts and the whole of” a mine. United States v. Iron Mountain Mines, 812 F. Supp. 1528, 1549 (E.D. Cal. 1993).

47 “Release” is defined as “any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment . . ..” 42 U.S.C. § 9601(22). The definition has been construed broadly.

48 40 C.F.R. Part 300: The National Contingency Plan (NCP) provides the procedural and substantive framework for all CERCLA response actions. It includes detailed procedural requirements for site assessments, investigations, alternatives, analysis and public participation.


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hazardous substances leached into the groundwater or into soils off-site or below any liner. Regardless of the state involved, groundwater monitoring in connection with the placement of coal ash would likely be required. If the monitoring indicated that hazardous substances had contaminated the groundwater, the site could be the subject of Superfund liability, although state waste site remediation laws would more likely be applied to the violation. Finally, the company would be a responsible party because it would own or operate the ash site (facility) at the time of disposal. This framework for CERCLA liability for a CCB facility presents itself due in large part to the narrow interpretation given to the Bevill exemption in defining what is and what is not a hazardous substance.

[2] — The Bevill Exemption and CERCLA.

“Hazardous substance” as defined under CERCLA is much broader than the definition of “hazardous waste” under RCRA. The distinction has led to considerable litigation. Under CERCLA, “hazardous substances” include:

(A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33 [the Clean Water Act, listed in 40 C.F.R. § 116.4],
(b) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title [including over 900 substances listed at 40 C.F.R. 302.4], (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act [42 U.S.C.A. § 6921][including over 700 wastes listed at 40 C.F.R. § 261.30-33] (But not including any waste the regulation of which under the solid waste disposal Act [42 U.S.C.A. § 6901 et seq.] has been suspended by Act of Congress) (D) any toxic pollutant listed under section 1317(a) of Title 33 [of the Clean Water Act, listed at 40 C.F.R. § 129.41], (E) any hazardous air pollutant listed under section 112 of the Clean Air Act [42 U.S.C.A. §7412], and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 2606 or Title 15. The term does not include petroleum, including crude oil or any faction thereof which is not otherwise specifically listed or designated.
as a hazardous substance under subparagraphs (A)-(F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).\(^{51}\)

A number of handlers of mining and mineral processing wastes and CCBs have contended that they are \textit{entirely} exempt from the definition of hazardous substances by the exclusion in subsection (C) (italicized above), which alludes to the Bevill Amendment. With one exception, courts have rejected the argument, holding that the exemption contained in subsection (C) is limited to subsection (C) wastes, and that a material is still a hazardous substance if it falls within any of the other listed statutory sections. In other words, if a CCB contains any of the metals that are considered hazardous under the other subsections, the CCB would be considered a hazardous substance under CERCLA.

Most courts have pointed to the general exemption for petroleum at the end of the definition of “hazardous substances” as proof that Congress knew how to create a total exemption when it wanted to and that the inclusion of the exemption within subsection (C), rather than at the end, indicated Congressional intent for a more limited exemption. The courts have also relied heavily upon EPA’s written interpretation of the statute, that Bevill wastes should be considered hazardous substances under CERCLA if they meet any of the other criteria of the definition of Section 9601(14).\(^{52}\)

The first reported case to deal with this issue of interpreting the Bevill Amendment was \textit{United States v. Metate Asbestos Corp.}\(^{53}\) In that case, the defendants denied responsibility under CERCLA for costs of cleaning up asbestos mine and mill wastes on the ground that those wastes were not “hazardous substances” because they were exempt under the Bevill Amendment as wastes from the extraction and processing of ores and minerals. The court agreed with the government that a substance may be considered a hazardous substance if it falls within any of the six categories

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\begin{itemize}
\item \(^{51}\) 42 U.S.C. § 9601(14)(Emphasis added. Note that bracketed words are not part of the statutory definition.).
\item \(^{52}\) See Amendment to National Oil and Hazardous Substance Contingency Plan; National Priorities List, 48 Fed. Reg. 40,658,40,663 (1983).
\end{itemize}
in the definition; the exemption only excluded asbestos from the third category. Because asbestos is regulated under Section 1317(a) of Title 33 and Section 112 of the Clean Air Act, the mine and mill wastes were considered hazardous substances.

An opinion issued soon after *Metate Asbestos, United States v. Union Gas Co.*,54 reached the same conclusion with regard to coal tar, which contained numerous constituents listed as toxic pollutants under the Clean Water Act. The court added that the Bevill Amendment was enacted to allow time for study of the adverse effects of various wastes, and if certain substances had already been designated as hazardous or toxic, additional study was ‘not warranted.’55


The seminal case pertaining to CCBs is *Eagle-Picher Industries, Inc. v. United States Environmental Protection Agency*,56 in which several mining companies and electric utilities challenged EPA’s inclusion of their facilities on the CERCLA National Priority List due to the presence of mining wastes and fly ash. Citing *Union Gas* and *Metate*, discussed above, the D.C. Circuit Court of Appeals concluded that the straightforward reading of the Bevill exception in the definition of hazardous substances is that it applies only to subparagraph (C). The court then explored two additional arguments made by the mining and utility interests. First, these petitioners argued that a narrow interpretation of the exemption would render the subsection (C) exception meaningless because virtually all mining wastes and fly ash contain constituents listed under the other subsections. The court rejected that argument because the petitioners failed to prove that contention, and so failed to prove the exception meaningless under the court’s interpretation.57

Second, the petitioners argued that the Senate Report (the definition of “hazardous substances” originated in a Senate bill) specifically stated:

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55 *Id.* at 1525.
57 *Id.* at 928.
It should be noted that any substance or material for which regulation is specifically suspended by Act of Congress under the Solid Waste Disposal Act is excluded from designation as a hazardous substance for the purpose of S. 1480 [the Senate version of CERCLA], notwithstanding the presence in such substance of any hazardous or toxic chemical.58

The Senate Report language did not make its way into the final bill. Although acknowledging that the Senate Report was clear, the court stated that the language of the statute itself was also clear, and where there was a conflict between the two, the statute must control. According to the court, the statutory definition clearly limited the Bevill exception to subsection (C).59

Another major case concerning fly ash was United States v. Conservation Chem. Co.60 The contaminated site in question was an industrial chemical waste disposal facility which handled over 50 million gallons of various chemicals. The court summarily followed Eagle-Picher to find that fly ash was a hazardous substance under CERCLA, even if it contained only trace amounts of regulated substances:

A waste is a “hazardous substance” under CERCLA if it contains substances listed as hazardous under any of the statutes referenced in CERCLA Section 101(14) regardless of the volumes or concentrations of those substances; presumably, if Congress had intended the definition of hazardous substances to be contingent upon the presence of a certain amount or

58 S. Report No. 848, 96th Cong. 2d Sess. 28 (1980).
59 Id.
60 United States v. Conservation Chem Co., 619 F. Supp. 162 (W.D. Mo. 1985). Other cases dealing with fly ash as hazardous substances are In re CMC Heartland Partners, 966 F.2d 1143 (7th Cir. 1992) (coal ash and paint sludge dumped into a pit); United States v. Schmalz, 823 F. Supp. 644 (E.D. Wis. 1993) (dumping of fly ash and paper mill waste; the court found that the waste contained hazardous substances, lead and chromium). 61 Id. at 238. Other cases stating that concentration of a hazardous substance in a material is irrelevant to liability under CERCLA include United States v. Alcan Aluminum Corp., 990 F.2d 711, 720 (2d Cir. 1993); B.F. Goodrich Co. v. Murtha, 958 F.2d 1192, 1200 (2nd Cir. 1992); and United States v. Nicolet, Inc., 712 F. Supp. 1205, 1207 (E.D. Pa. 1989).
concentration of a hazardous substance, it would have so provided.\footnote{61}

The court next turned to the argument by a utility that, even if fly ash was a hazardous substance, the company had not “arranged for disposal or treatment” of the CCB, the criterion for generator status, but had instead sold a product used to treat and neutralize wastes from other generators.\footnote{62} The court responded that the definition of “hazardous substance” contained no exemption for substances used to neutralize other hazardous substances or to effect closure of a site. In response to the defendant’s argument that it had not arranged for “disposal” because it had in essence sold the CBM as a product, the court noted that the “direction of flow of monetary consideration is not the test of liability under CERCLA.”\footnote{63}

The issue of the scope of the Bevill exemption went to the United States Supreme Court in 1995,\footnote{64} but unfortunately the Court denied \textit{certiorari}.\footnote{65} It appears that the Supreme Court will not enter the fray on this issue and any relief in broadening the exemption must come from the legislature.

This long line of cases is broken by a solitary opinion from California, \textit{United States v. Iron Mountain Mines},\footnote{66} dealing with acid mine drainage. The court concluded that the exclusion contained in subsection (C) was a complete exclusion from the definition of hazardous substances. When EPA requested reconsideration, the court in 1993 reaffirmed that Congress had clearly expressed its intent to exclude Bevill wastes from regulation under CERCLA.\footnote{67} Although the \textit{Iron Mountain Mines} opinion is well reasoned, it stands alone, and has been further weakened by the issuance in 1993 of the \textit{Louisiana-Pacific Corp.} case, cited above, by the Ninth Circuit, the court of appeal for California.

In conclusion, the Bevill exemption offers excellent protection against RCRA liability for the four types of large-volume fossil fuel combustion

\footnote{62}{In fact, one defendant contended that the government’s own draft remediation plan for the site called for the use of its Bevill waste. 619 F. Supp. at 237-38.}
\footnote{63}{\textit{Id}. at 240. See also discussion above at \textsection 11.03[3].}
\footnote{64}{Asarco, Inc. v. Louisiana-Pac. Corp., 513 U.S. 1103 (1995).}
\footnote{65}{\textit{Louisiana-Pac. Corp. v. Asarco}, Inc., 24 F.3d 1565 (9th Cir. 1994).}
\footnote{67}{\textit{Id}. at 1554.}
waste streams — fly ash, bottom ash, boiler slag, and flue gas emission control wastes. It is likely, based on EPA’s March 1999 Report to Congress, that remaining wastes, with some apparent exceptions, will enjoy the same exemption when EPA finally issues its regulatory determination in March, 2000. In contrast, with regard to CERCLA, the vast majority of courts, including two appellate courts, have determined that the Bevill exemption offers no protection. Instead, if a material such as CCB contains any concentration of a hazardous substance listed in 40 C.F.R. Section 302.4, Table 302.4, or in other cross-referenced laws, the material will be considered a hazardous substance for purposes of CERCLA liability. The Supreme Court has refused to review those cases, leaving virtually all coal combustion wastes in the category of hazardous substances, since virtually all contain some level of arsenic and other heavy metals. If any relief is to be found, it will have to come from legislative efforts.

§ 11.04. Overview of State Regulation of CCBs.

In light of the March 1999 EPA Report, it is likely that most remaining waste will continue to be regulated at the state level, as with the high volume CCBs exempted in the 1993 regulatory determination. The following discussions provide an overview of current CCB regulation in some representative coal producing states, including Kentucky, Pennsylvania, West Virginia, and Illinois.


Currently, under Kentucky regulations, CCBs (fly ash, bottom ash, and scrubber sludge) are exempt from regulation as hazardous waste, but are classified as special waste.68 Reuse of these CCBs is allowed under permit for the following applications: (1) as an ingredient in a manufacturing product, (2) as an ingredient in cement, paint, and plastics, (3) as highway base, and (4) as roofing granules.69 However, these reuse allowances are subject to specific conditions such as the following: CCB reuse may not

68 Ky. Rev. Stat. Ann. § 224.50-760(1)(a); 401 Ky. Admin. Regs. 45:010 § (4). Excluded from the definition of CCBs are boiler slag and residues of refuse-derived fuels, such as municipal waste and solvents.
69 Id.
create a nuisance, must be at least 100 feet from a stream and 300 feet from potable wells, wetlands, or flood plains, and the generator must submit an annual report identifying the type and amount of waste released for reuse.\textsuperscript{70}

Beneficial use of CCBs in mine applications must be specifically authorized under a permit issued by the Department for Surface Mining, Reclamation and Enforcement.\textsuperscript{71} Many of the restrictions under this regulation include limitations on use of CCBs mixed with low volume (remaining) wastes. Therefore, this statute may be amended when EPA finally promulgates its regulatory determination on low volume remaining wastes. Other restrictions placed on use of CCBs in mine applications include the following: (1) CCBs may be placed only in the pit or extraction area from which coal has been removed — special permission may be obtained for placement in other areas under certain circumstances; (2) the permittee must keep records of the source and amount of CCBs received; (3) an annual CCB lab analysis report must be submitted; and (4) other permit specific information must be submitted.\textsuperscript{72}


Currently, under Pennsylvania regulations, bottom ash, fly ash, slag, and flue gas emission control waste generated primarily from the combustion of coal are exempt from regulation as hazardous waste.\textsuperscript{73} Coal ash is regulated under the Solid Waste Management Act, which was amended in 1992 to include the beneficial use of coal ash.\textsuperscript{74} Pennsylvania regulations provide that coal ash (fly ash, bottom ash and boiler slag) may be beneficially used. All other coal ash that is not beneficially used is a “residual waste.” Coal ash may be beneficially used in the following applications: (1) as structural fill; (2) as a soil additive; (3) in the manufacture of concrete; (4) for road base, and (5) for mine subsidence control, fire control and mine sealing, with certain requirements.\textsuperscript{75} Additionally, coal ash may be used

\textsuperscript{72} Id.
\textsuperscript{75} Id.
\textsuperscript{76} 25 Pa. Code § 287.663 (1997); 52 P.S. §§ 1396.1-.19a; 52 P.S. §§ 30.51-.66.
for reclamation of an active mine site or coal refuse disposal/reprocessing site pursuant to specific regulations,\textsuperscript{76} and at abandoned coal and non-coal mine sites contingent upon Department of Environmental Protection approval.\textsuperscript{77}


West Virginia regulations adopt by reference the federal regulation (Bevill Amendment) which exempts CCBs from classification as hazardous waste. Currently, large-volume CCBs (fly ash, bottom ash, slag, flue emission control waste generated primarily from the combustion of coal) may be used for the following applications: (1) as a material in manufacturing another product (e.g. concrete, concrete block, flowable fill, plastics, and paint); (2) as a stabilization agent for other waste; (3) as pipe bedding; (4) as an anti-skid agent, except for fly ash which is not deemed a beneficial use; (5) as a daily or intermediate cover for certain solid waste facilities if permitted, and (6) as a construction base for roads.\textsuperscript{78} In addition, West Virginia regulations note that beneficial reuse of CCBs for structural fills and as soil amendment will be addressed in future regulations.\textsuperscript{79}


Under Illinois regulations, CCBs (fly ash, bottom ash, slag, or flue gas emission control waste from combustion of coal) are exempt from regulation as hazardous waste.\textsuperscript{80} Illinois has created two classifications of coal ash: coal combustion waste (CCW), and coal combustion by-product (CCB).\textsuperscript{81} All remaining wastes from coal combustion are considered CCWs. CCWs are subject to more stringent regulation than are CCBs. However, CCWs can be classified as CCBs under certain conditions.\textsuperscript{82}

CCBs may be reused beneficially in the following applications: (1) for the extraction and recovery of materials and compounds within the ash; (2)

\textsuperscript{77} W. Va. Regs. § 33-1-5.5.2.d.
\textsuperscript{78} Id.
\textsuperscript{80} 415 Ill. Comp. Stat. 5/3.94 (1999).
\textsuperscript{81} Id.
for asphalt or roofing tiles; (3) as a raw material in cement, concrete, and cement mortars; (4) in plastic, paint, and metal alloys; (5) as road base or anti-skid material (bottom ash); (6) as a lime substitute for agricultural applications, subject to certain analytic parameters; and (7) for mine subsidence, fire control, reclamation, and sealing applications.83

§ 11.05. Clean Air Act Implications for CCB Disposal at Surface Mines.

The dust which will be generated during ash disposal/handling operations may trigger some provisions of the federal Clean Air Act (CAA)84 and the state air programs mandated by the CAA. The extent to which air quality considerations will impact an ash disposal operation on a mine site will depend, in large part, on where the operation is located, whether it is being operated in conjunction with another regulated source, and the nature of that source.

Generally, emissions from an ash disposal facility would fall into the category of “fugitive emissions,” since they would not be emitted from a stack or vent. These fugitive emissions may be categorized as PM$_{10}$, defined as particulate matter85 with an aerodynamic diameter less than or equal to a nominal 10 micrometers.86 The EPA has established a National Ambient Air Quality Standard (NAAQS) for PM$_{10}$,87 which must be enforced by each authorized state pursuant to its State Implementation Plan (SIP).88 Each SIP must include a control strategy that provides the degree of emission

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83 The user of CCBs in certain applications must notify the IEPA, obtain specific permits or permissions, and retain and submit certain records. Additionally, mine application of CCBs must meet the requirements specified in 415 Ill. Comp. Stat. 5/21(r) and certain guidance requirements issued in Land Reclamation Memorandum 92-11 and 95-89 issued jointly by the Ill. Dept. of Mines and Minerals and IEPA.
84 42 U.S.C. § 7401 et seq.
85 “Particulate Matter” is defined as “any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers.” 40 C.F.R. § 51.100(oo).
86 40 C.F.R. § 51.100(qq).
87 40 C.F.R. § 50.6.
88 The SIP is the mechanism for the individual states to obtain primary regulatory enforcement and permitting authority from EPA to administer the Clean Air Act.
89 40 C.F.R. § 51.110.
reductions necessary to attain and maintain the NAAQS for PM$_{10}$.\textsuperscript{89} and must include procedures which enable the state agency to determine whether construction or modification of a source will result in interference with or maintenance of the NAAQS for PM$_{10}$.\textsuperscript{90} Ash disposal operations would be subject to the NAAQS for PM$_{10}$, regardless of the type of operation involved.

Title V of the Clean Air Act features a program of permits for “major sources” of air pollution, and includes permitting standards to be incorporated into SIPs. Sources required to obtain Title V permits include, but are not limited to sources which: (1) are deemed to be “major” sources of any air pollutant; (2) are new or modified sources subject to New Source Performance Standards (NSPS) set forth in EPA’s regulations; or (3) are new or modified sources required to obtain a Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit.\textsuperscript{91}

The location of the ash disposal operation will be a significant factor in determining whether the operation will be deemed to be a “major source” required to obtain an operating permit. A “major source” is generally defined as a source which emits or has the potential to emit 100 tons per year (tpy) or more of any regulated pollutant (including PM$_{10}$),\textsuperscript{92} but a source’s fugitive emissions are excluded from the 100 tpy calculation, unless the source belongs to one of 27 categories listed in the regulations.\textsuperscript{93} In each case, the list of specified categories includes: (1) coal cleaning plants (with thermal dryers) and (2) fossil fuel-fired steam electric plants of greater than 250 million BTUs/hour heat input.\textsuperscript{94} Thus, an ash disposal operation which is done in connection with a coal mining operation or as a stand-alone operation (such as a landfill) would be unlikely to require a permit, since the fugitives (dust) would be exempt from inclusion in the “major source” calculation. Conversely, fugitives generated by ash disposal at the site of a

\begin{itemize}
  \item 40 C.F.R. § 51.160.
  \item 42 U.S.C. § 7661a(a).
  \item In serious nonattainment areas, the PM$_{10}$ trigger would be only 70 tpy.
  \item 40 C.F.R. §51.165(a) (iv) (NSR in nonattainment areas); 40 C.F.R. § 51.166 (b)(1)(PSD in attainment areas); 40 C.F.R. § 70.2, definition of “major source” (Title V permit program).
  \item \textit{Id.}
  \item These facilities are also subject to NSPS requirements found at 40 C.F.R. Part 60, Subparts D (power plants) and Y (coal preparations plants).
\end{itemize}
coal processing plant or of a power plant would count toward a “major source” determination, and might trigger application of the Title V permitting requirements to the entire facility.

As a general rule, fugitive emissions from ash disposal operations will be subject to EPA’s NAAQS for PM$_{10}$, and such operations may be required to demonstrate that they will not cause or contribute to a violation of the NAAQS. Whether other air pollution requirements (such as compliance with NSR/PSD regulations or permitting) will be applicable will depend on the location of the operations. Ash disposal operations at an existing surface coal mining operation (without a preparation plant) or at a landfill would probably be exempt from Title V permitting and other requirements. Ash disposal in connection with other types of regulated facilities (power and coal processing plants) would likely have to be included in the facility’s air permit and would be subject to the operating standards set forth in that permit.

Even in the absence of NSR/PSD or Title V requirements, a CCB disposal/storage operation may be required to submit a dust control plan or to stabilize surface areas pursuant to the state counterpart of the air pollution control requirements under SMCRA applicable to surface coal mining operations. In addition, state fugitive dust controls may apply, depending upon the law of the state where the operation is located. Often such general provisions specify practices expected to reduce fugitive dust emissions, such as application of water or chemicals, tarping of trucks, and removal of loose materials on paved roads. Such general provisions may also specify that visible emissions not be discharged beyond the property boundary.

§ 11.06. Clean Water Act Implications for CCB Disposal at Surface Mines.

The Federal Clean Water Act of 1972 (CWA), enacted to promote protection of surface water quality, established a permitting scheme to

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95 30 C.F.R. § 780.15 and 30 C.F.R. § 816.95.
96 See, e.g., Va. Regs. § 120-04-0104.
regulate the discharge of pollutants from point sources into the navigable waters of the United States. The National Pollutant Discharge Elimination System permit (NPDES permit) is the mechanism for monitoring and reporting effluent discharges under the CWA. As is the case of SMCRA and the Clean Air Act, the CWA also allows delegation of NPDES authority to the states, which are then authorized to issue NPDES permits and operate the regulatory program.

The Surface Mining Control and Reclamation Act (SMCRA), also addresses surface water protection as part of its environmental protection performance standards. The U.S. Office of Surface Mining has promulgated regulations which implement the water quality provisions of SMCRA.

Discharges of water from areas disturbed by surface mining activities shall be made in compliance with all applicable State and Federal water quality laws and regulations and with the effluent limitations for coal mining promulgated by the U.S. Environmental Protection Agency set forth in 40 C.F.R. part 434.

The effluent criteria established in Part 434 set out point source limitations and effluent standards for coal mining and reclamation operations. Generally, the only constituents covered by an NPDES permit for a coal operation are iron, manganese, pH, and total suspended solids; discharges are primarily controlled through the use of settling basins. A separate federal regulation governing steam electric power generating point sources expressly requires zero discharge to surface waters from new source fly ash transport waters.

The NPDES permit may be issued by a state regulatory authority concurrent with a waste disposal or surface mining permit or the NPDES

100 33 U.S.C. § 1342.
104 30 C.F.R. § 816.42.
105 40 C.F.R. § 434.10-.65.
106 40 C.F.R. § 423.14 (g).
107 Some states have an “integrated” permitting process where basically one permit application addresses all of the “permissible” activities and the end result is a permit.
permit may be a separate and distinct application and permit\textsuperscript{107} For active mine sites that will receive CCBs, the placement of ash will have significant implications for surface and groundwater monitoring, but the specific criteria for establishing baselines, parameter monitoring and reporting requirements will be controlled by state law, unless the ash is considered a hazardous waste under RCRA.

Some states have borrowed from their waste management regulatory programs to establish the framework for monitoring surface and groundwater discharges at surface coal mines receiving CCBs. Although the mining regulatory program issues the necessary permits and conducts enforcement, West Virginia, for example, permits disposal of coal ash on mine sites under its mining act,\textsuperscript{108} but also recognizes that ash is an “industrial waste” under its Water Pollution Control Act\textsuperscript{109} and is therefore subject to its NPDES program. Other states have legislation or regulations expressly addressing ash disposal at coal mine sites.\textsuperscript{110} KRS 350.270 specifies the surface and groundwater monitoring requirements for ash disposal at surface coal mines, including details such as parameters to be monitored, monitoring frequency and reporting requirements.

Apart from their authority under the state analogues to the Clean Water Act, the states have authority to regulate the effluent from ash disposal (or use) sites under surface mining and waste laws and will specify the compliance criteria in permits under those programs.\textsuperscript{111} Regarding groundwater protection standards, some states have adopted the drinking water standards under the Federal Safe Drinking Water Act\textsuperscript{112} as the

\textsuperscript{107} West Virginia Code 22A-3-12(b)(11).
\textsuperscript{108} West Virginia Code 20-5A-2(h) and (j).
\textsuperscript{110} The West Virginia Groundwater Protection Act, W. Virginia Code 20-5 applies to ash disposal at mine sites.
\textsuperscript{111} 42 U.S.C. 300 f-300j-26, see, e.g., Kentucky K.R.S. 350.270(28).
requirements for groundwater. Any exceedance of those standards would trigger requirements for further study and/or abatement activities.

In summary, the Clean Water Act implications of CCB disposal or utilization at surface coal mines will be incorporated into the mining permit, but the most stringent requirements regarding surface and groundwater protection will come from other state laws and regulations which will be incorporated into the NPDES permit and groundwater monitoring and reporting requirements. These state provisions routinely require ash characterization, baseline monitoring, routine sampling and analysis, and reporting of many parameters not required under the normal coal mine NPDES permit.

§ 11.07. Use of CCBs in Abandoned Mine Reclamation.

The use of CCBs in abandoned mine reclamation projects is gaining notoriety in large part due to projects initiated by the independent power plant and cogeneration industry (IPPs). In many power projects, IPPs are using coal refuse in the form of gob, culm and even coal slurry as fuel. The source sites are often old abandoned, pre-SMCRA waste piles and impoundments for which there is no legal liability (under SMCRA) to reclaim. In order to facilitate “reclamation” of these sites, regulatory authorities are permitting “remining” or “reprocessing” of the site with a concomitant return of CCBs to the site for site “reclamation.” The CCB use in reclamation is a permitted or otherwise regulated113 activity overseen by the state regulatory authority.

Ash disposal or use in reclamation is still regulated (depending on the state) to the extent that the ash must meet certain qualitative criteria, and use in reclamation must meet specific operational requirements such as ash placement restrictions, compaction, soil cover, surface and groundwater monitoring and detailed reporting requirements. In essence, if a company opted to propose to reclaim abandoned mines with significant amounts of 

113 In Pennsylvania, for example, in lieu of a surface mining permit the Pennsylvania Department of Environmental Resources may enter into a No Cost Reclamation Contract with an operator in which the operator “reclaims” the site by removing all gob and returning ash to the site. Ash placement and site configuration is conducted under sound engineering design.
CCBs, the process, in most states, would be akin to obtaining a residual or special waste permit with all of the mandatory environmental protections. In other states, such as Illinois, ash disposal at abandoned mine sites does not require a permit under the Illinois Environmental Protection Act.

State regulations regarding CCB beneficial use are extremely varied. Some, such as the regulation of ash placement at surface coal mines, are very detailed and promote specific uses for the material. Other applicable regulations are contained in waste management programs concerning “recycled” or “recovered” materials.

In the states having regulations expressly promoting other “beneficial use” or “beneficial reuse” of CCBs, various categories of beneficial uses are often recognized: structural fills, mine reclamation, mine subsidence control, soil substitute or additive, highway base course or blasting grit. In most cases, although the beneficial use may be permitted by rule, there is usually some notice requirement and specific regulatory criteria apply.

It should be understood that, in general, a regulatory authority will not permit significant disposal of CCBs under the guise of “reclamation” or “beneficial use,” without establishing the necessary environmental safeguards that would normally pertain to a permitted ash disposal site or surface mine permitted for CCB placement.

In summary, the use of CCBs for abandoned mine reclamation is controlled by state law. The coal states have various regulatory mechanisms for addressing these projects, ranging from permits by rule to processes akin to a full individual permitting process. If a company sees an opportunity where an abandoned mine site may make economic sense to reclaim using CCBs, a review of the state abandoned mine reclamation and beneficial use regulations and a determination of the applicability of other

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114 “Abandoned Mine Land” is defined as “pre-SMCRA” lands for which there is no continuing reclamation responsibility under state or federal laws. See Illinois Abandoned Mined Lands and Water Reclamation Act, Ill. Rev. Stat. Ch. 20, ¶ 1920, § 1.03.

115 In Pennsylvania, which perhaps has the most “sophisticated” program regarding the use of CCBs for abandoned mine reclamation, the beneficial use regulations specifically address and encourage the use of CCBs in abandoned mine reclamation. However, the regulatory authority must approve the project. See Pa. Code §§ 287.663(a)(1)(ii), 287.664(b)(3).
environmental protection requirements will be necessary, based on site-specific considerations.

§ 11.08. Conclusion.

With the increased demand for electrical power and continued utilization of coal projected for the future, the United States will actively manage over two billion tons of CCBs in the next 20 years. Clearly, the use of landfills and ash impoundments will be continued and managed at the state level. However, there is a significant trend and opportunity for the beneficial use of CCBs in numerous applications, including mine reclamation. The generators and parties handling various aspects of the waste stream must pay careful attention to the disposition of the materials in order to avoid possible liability. Further, CCB managers must be abreast of the evolving “markets” and opportunities for beneficial use of these materials, keeping a sharp eye on EPA’s pending rule-making regarding remaining wastes and the evolving area of state law regarding beneficial use of CCBs.