

April 1, 2009

Matt Hale
Director
Office of Resource Conservation and Recovery
USEPA Headquarters
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code: 5301P
Washington, DC 20460

Dear Matt,

ASTSWMO has a demonstrated track record of active interest in the management of coal combustion by-products (CCB). ASTSWMO's Fossil Fuel Combustion Waste (FFCW) Work Group gathered information about State regulation of CCB in late 2006 – early 2007. The results of that effort indicated that the majority of the responding States had regulatory programs in place for the management of CCB. On February 11, 2008, the FFCW Work Group provided comments on USEPA's "Notice of Data Availability (NODA) on the Disposal of Coal Combustion Wastes in Landfills and Surface Impoundments." Comments were based in part on the 2006-2007 survey results. The FFCW Work Group recommended a more flexible regulatory approach that allows consideration by the permitting authority of the waste type, climate, site geology and environment, and encourages a scientific and engineering approach to minimize potential risks to acceptable standards. They stated that this approach was the current practice in many States. The FFCW Work Group questioned the need for additional federal regulations related to CCB materials.

The Tennessee Valley Authority (TVA) spill in December 2008 brought renewed attention to the question about the need for federal regulation of CCB. In response to EPA's fast-track regulatory process for coal combustion waste, the ASTSWMO Board of Directors formed a CCB ad hoc Workgroup in January 2009 to review and respond to EPA's proposed regulatory schemes.

The first action of the group was to modify and reissue the 2006 survey of States initially designed by the FFCW Workgroup. In February 2009, ASTSWMO's CCB ad hoc Workgroup surveyed State waste and water program managers, working in conjunction with ECOS and ASIWPCA. There were three parts to the survey: general information about CCB management, questions specific to landfills and questions specific to surface impoundments. The survey has been completed by 44 States. Eight States do not have CCB. Fourteen States do not have CCB surface impoundments. Enclosed as an attachment to this letter are the summary results from the survey for States that have CCB.

The Workgroup also called on States to provide comments on EPA's possible regulatory proposals. A compilation of State responses is also enclosed as an attachment to this letter.



There is no question that releases, such as the December 2008 TVA Impoundment Failure in Kingston, Tennessee, should be prevented to the extent practical though appropriate engineering, design, and operating standards. However, it is also critical that all relevant factors be considered in deciding the appropriate course of action.

Presented below are the pros and cons of the possible regulatory proposals for CCB prepared by the CCB ad hoc Workgroup, based on the survey results and State comments.

Justification of preference for Subtitle D regulation of CCB:

USEPA should implement an approach to coal combustion by-product (CCB) regulations similar to the approach that is taken with municipal solid waste pursuant to 40 CFR Part 258, commonly referred to as RCRA Subtitle D. Using the lessons learned by States since the adoption of 40 CFR Part 258 and historical CCB data collected by States, RCRA Subtitle D could be modified to specifically address CCB waste disposal facility requirements and is the framework that the USEPA should build upon.

Most States regulate CCB. Thirty-six out of 42 States that have CCB have permit programs for CCB landfills (86 percent). Only 3 States responded “no” and 3 States did not respond. Twenty-five out of 36 States that have CCB surface impoundments have permit programs for those impoundments (69 percent). Only 3 States responded “no” and 8 States did not respond. Most States regulate CCB under general solid waste regulations (43 percent) and general industrial waste regulations (43 percent). Several States use regulations specifically designed for CCB (29 percent). According to USEPA, the design and performance standards will likely be the same no matter what regulatory scheme is chosen. Many States voluntarily impose minimum performance standards for both landfills and surface impoundments under Subtitle D, demonstrating that minimum federal Subtitle D requirements will be sufficient to ensure that States properly regulate CCB.

| Percentage of States with CCB landfills and surface impoundments with specific regulatory requirements | | |
|--|-----------|----------------------|
| Regulatory Requirement | Landfills | Surface Impoundments |
| Bottom Liner | 64% | 33% |
| GW Monitoring | 81% | 39% |
| Leachate Collection | 52% | 14% |
| Final Cover System | 79% | 36% |
| Post Closure Care | 79% | 39% |
| Siting Controls | 83% | 39% |
| Corrective Action | 86% | 42% |
| Structural Stability | 69% | 36% |
| Financial Assurance | 69% | 31% |

The fact that more than half the States already require each of the technical standards identified above for landfills demonstrates that minimum federal Subtitle D requirements will be sufficient to ensure that States properly regulate CCB. A considerable number of States have these requirements for surface impoundments as well, although we acknowledge that more States may have to upgrade their surface impoundment requirements than will have to for landfills. Establishing federal minimum standards under Subtitle D will provide the impetus needed for all States to conform. It is also important to note that currently, 36 percent of States with CCB are contemplating changes to their CCB regulations and 27 percent of those already have draft revised regulations.

State experiences

Michigan - "Michigan currently regulates coal ash as a solid waste under Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) ... in 1993 when Michigan became an approved State under the Resource Conservation and Recovery Act (RCRA) Subtitle D program. Based on the analytical information that we have seen on coal ash, we believe that the levels of contaminants contained in coal ash are similar in nature to those found in cement kiln dust, wood ash, foundry sands, paper mill wastes, or steel mill waste. With the promulgation of the 1993 rules, we consider all these waste to be low-hazard industrial waste (i.e. they leach less than ten percent of the hazardous waste limits when using the appropriate leaching tests)."

West Virginia - "I have been regulating coal ash facilities for 26 years for the State of West Virginia. I have never found a TCLP [Toxicity Characteristics Leaching Procedure] or other chemical characterization that would indicate that coal ash could be labeled as a hazardous waste. Most of the time the metal concentrations, which would be the main characteristic that could be considered hazardous, are at or below MCL for drinking water."

Iowa - "The Department understands that the USEPA is considering options to regulate [CCB] as a hazardous waste under RCRA Subtitle C. This option is not supported by the historic data that has been collected from generators of [CCB] in Iowa which shows that [CCB] does not exceed RCRA Subtitle C hazardous waste characteristics."

Arguably, municipal solid waste (MSW) presents more extensive environmental concerns than CCB. Municipal waste streams contain not only heavy metals, but also organic, acidic and alkaline materials. The organics in MSW can be more problematic than industrial wastes, which are generally inorganic in nature. Logically, if Subtitle D is adequate for MSW, then it certainly should be sufficiently protective for CCB.

Based on federal minimum standards for location, design, environmental monitoring, operation, closure, post-closure care, corrective action, and financial assurance, the States have established federally approved Subtitle D State programs. These programs have proven successful dealing with municipal solid waste, including household

hazardous wastes and Conditionally Exempt Small Quantity Generator (CESQG) waste at the State's option. A substantial number of damage cases supported the federal adoption of minimum national Subtitle D municipal solid waste landfill standards. A similar Subtitle D approach can successfully implement minimum federal standards for coal combustion waste disposal facilities. The Subtitle D approach can address any concern regarding the stability of a CCB disposal facility through establishing minimum federal design standards and routine inspection and evaluation.

Most States have some mechanism to recognize and regulate the beneficial use of Subtitle D wastes. According to the **2006 ASTSWMO Beneficial Use Survey Report**, 34 out of the 40 reporting States (85 percent) indicated they had either formal or informal decision-making processes or beneficial use programs relating to use of non-hazardous solid wastes. The Subtitle D approach, with minimum federal standards, will facilitate the continued beneficial use of CCB. As the anticipated volume of CCB produced is expected to increase or even double in many States as the Clean Air Act requirements for installation of scrubbers for flue gas desulfurization (FGD) are implemented, it is vital that the recycling of those materials which can be safely used in products or as raw materials be so used. Adopting a Subtitle D approach to the regulation of high volume, low toxicity coal combustion by-products would offer the best fit with existing and developing State beneficial use programs.

Explanation of opposition to Subtitle C regulation of CCB:

State experiences

Iowa – “Declaring CCB a hazardous waste creates an even greater hardship in Iowa because of the amount that is generated and the fact that there is no RCRA C permitted disposal facilities in the State. The likelihood of siting such a facility borders on the impossible. The implications of this action are that CCB generators would be forced to ship materials to surrounding States for disposal. That could become very costly for Iowans and extremely difficult to justify when there is little scientific data supporting such drastic measures.”

Michigan – “RCRA Subtitle C wastes in Michigan are currently regulated under Part 111, Hazardous Waste Management, of the NREPA. The regulation of coal ash under full RCRA Subtitle C would end the current beneficial uses of coal ash. Existing surface impoundments and landfills would be subject to more stringent design standards and would require either 1) retrofitting of existing landfills (if even possible) or 2) closure of those disposal facilities. Neither of these options could be implemented immediately.”

Florida – “If USEPA decides to call coal ash a hazardous waste under Subtitle C, then current Florida law (Section 403.7222, Florida Statutes) would prohibit the disposal of this coal ash in landfills unless it was first treated to be non-hazardous. This could add tremendous costs to the power industry for managing this material. They would either have to treat their ash before disposal or ship it out of State for disposal. It is also likely that if existing disposal areas were disturbed after USEPA determined coal ash was a hazardous waste, then these old disposal sites could become hazardous waste disposal units too.”

Virginia – “If USEPA was to regulate CCB as a hazardous waste under the RCRA Subtitle C authorities, Virginia would no longer allow these materials to be beneficial reused under our CCB Regulations (9 VAC 20-85) and, also, there would be no beneficial reuse exclusions/exemption under our Virginia Solid Waste Management Regulations (9 VAC 20-80), as well.”

As noted above, the vast State experience with testing CCB shows that it is generally not characteristically hazardous. Coal combustion by-products rarely if ever fail the criteria by which materials are determined to be hazardous waste. To artificially classify them as hazardous will needlessly limit the management options for both the CCBs and other wastes legitimately classified as hazardous which will be competing with CCBs for limited hazardous waste disposal capacity, while not producing any greater degree of environmental protection. Transportation, manifesting and licensing requirements for CCBs as a listed hazardous waste are excessively burdensome without sufficient evidence of a benefit. It would be more appropriate to regulate and manage CCBs using design and operation standards specified for Subtitle D programs except in the cases where a particular source material is deemed hazardous upon testing for characteristics.

The prospect of adding a significant new waste stream to

be managed by severely underfunded State hazardous waste programs is unconscionable unless a significant amount of new sustained funding is included. ASTSWMO's Hazardous Waste Subcommittee conducted a pilot program to determine the cost to States for implementing a complete and adequate RCRA Subtitle C Program (hereafter referred to as "RCRA C" or "RCRA") in 2006. The report entitled *State RCRA Subtitle C Core Hazardous Waste Management Program Implementation Costs - Final Report (January 2007)* revealed that the cost to States of implementing a complete and adequate RCRA Program (converted to 2008 dollars) is, at a minimum, \$367M in State and federal funding. The State share should be \$92M (25 percent) with the remaining \$275M in State Hazardous Waste Financial Assistance grants. However, the FY 2008 federal appropriation was only slightly more than half of what States needed. Congress appropriated \$101M rather than \$175M. States are making up the difference for these federally mandated programs from already strained State budgets. These programs are already stretched to the breaking point. Expectations should not be high for a successful incorporation of CCB into State Subtitle C programs without the guarantee of commensurate increases in State grant funding.

USEPA should avoid a "one size fits all" approach that will unnecessarily divert limited technical resources away from existing permitting or compliance and enforcement work. Instead, USEPA should recognize that many States have adequate controls in place and allow them to maintain their programs. USEPA could then focus its efforts on correcting any deficiencies identified by their investigations.

The most compelling reason not to impose Subtitle C regulations is that the beneficial use of CCB has been very successful. The "hazardous" label of Subtitle C would be detrimental to State CCB beneficial use programs, as discussed below. Regulation under RCRA Subtitle C has the potential to put an end to many beneficial uses for CCB. In most States, a primary requirement for a beneficial use determination is that the waste not be hazardous. RCRA Subtitle C wastes in Michigan are currently regulated under Part 111, Hazardous Waste Management, of the NREPA. The regulation of coal ash under full RCRA Subtitle C would end most of the current beneficial uses of coal ash. Existing surface impoundments and landfills would be subject to more stringent design standards and would require either 1) retrofitting of existing landfills (if even possible) or 2) closure of those disposal facilities. Neither of these options could be implemented immediately.

Implications for beneficial use if CCB is regulated under Subtitle C:

The American Coal Ash Association reports that 43 percent of CCB is currently used in a beneficial way rather than disposed in a landfill. About 20 percent of CCB is used in products – 14 percent is bound in concrete and cement; 6 percent is used to make gypsum wallboard. Currently, 56 percent, or 75 million tons, is not beneficially used. States are concerned that designating CCB as a hazardous waste under Subtitle C or a hybrid Subtitle D/C regulation would prevent beneficial use of CCB and result in all 134 million tons of CCB being shipped to hazardous waste landfills that in many States have insufficient capacity. As the anticipated volume of CCBs produced is expected to increase or even double in many States as requirements for FGD are implemented, it is vital that the recycling of those materials which can be safely used in products or as raw materials be so used.

Not only do many State regulations prohibit the beneficial use of CCB if it is declared hazardous (see State experiences insert), such a designation will stigmatize the material in a way that will

State experiences

Michigan – “Michigan currently has regulations in place governing the reuse and disposal of coal ash that are protective of public health and the environment. If coal ash were determined to be subject to regulation under Subtitle C, it would necessitate considerable changes to Michigan solid and hazardous waste statutes and regulations. Such changes would likely be subject to considerable opposition from any industry and/or municipality that generates coal ash waste, and would likely lead to increased costs for energy generation.”

Missouri – “Given the current State of CCB management activities in Missouri there does not appear to be a compelling reason, from a human health or environmental protection standpoint, to manage these materials as hazardous waste under RCRA Subtitle C. To do so would be an undue disruption to current State CCB and UWLF management practices and would likely result in a significant increase in the cost of CCB management without a corresponding increase in human health or environmental improvement/protection.”

adversely affect beneficial use. The stigma issue also applies to the proposed hybrid Subtitle D/C approach. The uncertainty that a presumed non-hazardous material could be deemed hazardous as a result of a determination that a generator failed to follow the Subtitle D requirements will create too much uncertainty and liability concerns for the beneficial user.

Coal combustion by-products or residue generally consists of fly ash, bottom ash, or wet slurry depending on the combustion unit and associated air pollution control devices. The character of the end stream varies and is dependent upon several factors. However, all seem to be lumped together in this regulatory analysis without discussion of

segregate characteristics or potential for beneficial use.

States require testing of beneficially reused materials. Testing can include initial analysis of the material and additional testing when sources of fuel change or when there is a change in plant processes, if such changes cause a change in the constituents generated. States report that their beneficial programs do not allow the use of coal ash in road construction if the material fails the Toxicity Characteristics Leaching Procedure (TCLP). Many States report that they do not have any data to suggest that coal ash projects that have been reviewed have failed TCLP.

- Examples of the beneficial use of CCB
- a component of concrete, grout, mortar, or casting molds
 - a raw material in asphalt for road construction
 - aggregate or road or building material which will be stabilized or bonded by cement, limes or asphalt
 - road base or construction fill that is covered with asphalt, concrete, or other material approved by the State
 - a soil amendment or for soil stabilization provided the materials meet State criteria

States have incorporated technical standards in their regulations and approvals for storage of CCB. For example, in Missouri, a waste to be beneficially reused is kept above the seasonal high groundwater table, unless a variance is obtained from the department's Water Protection Program (WPP.) This requires an interpretation by a geologist registered in the State. A 3-foot cap of clean soil is required unless the material is placed under a structure or a paved/concreted area.

Recycling this waste material into new products, rather than having to mine additional virgin material, is integral to sustainable development and sustainable infrastructure. To disallow the

beneficial use of coal combustion by-products (CCB) would cause an increase in the use of valuable mineral resources rather than reusing a waste product. This would in turn increase disposal costs for the utilities which would be passed on to the consumer. Counties and municipalities which use bottom ash as snow and ice control would instead have to purchase chemicals or salts to treat the roads. State transportation departments and other entities using CCB would have to purchase soil to use in place of the fly ash currently used for structural fill, road base, as a soil amendment or for soil stabilization. This could impact the number of miles of roads that can be constructed or repaired and increase costs. In other cases, specific beneficial use projects limit the amount of transportation that would otherwise be needed if the material were considered a hazardous waste. Some coal-fired power plants are co-located near gypsum wallboard manufacturers. The FGD sludge is transported by conveyor belt directly to the wallboard facility for beneficial use. These operations result in safe uses and minimal transport of the FGD sludge.

Concerns about existing facilities:

An issue that has not been addressed adequately in discussions is whether USEPA plans to address existing facilities, and if so how. If USEPA pursues the Subtitle C regulatory route, it might subject all existing facilities in a State to RCRA corrective action. Additionally, bringing existing facilities under Subtitle C raises resource-intensive permitting issues. States generally have legislatively prescribed staffing levels based upon workload, mission, funding, and statutes passed to implement federal RCRA authority or delegation. As noted previously, ASTSWMO's report entitled *State RCRA Subtitle C Core Hazardous Waste Management Program Implementation Costs - Final Report (January 2007)* demonstrates that State Subtitle C programs are already seriously underfunded. Additionally, retrofitting of existing Utility Waste Landfills (UWLFs) to meet Subtitle C standards is likely to be technically impracticable. Even if technically feasible, the cost of retrofitting UWLFs to meet current RCRA Subtitle C standards would likely be prohibitively expensive. Any additional compliance costs borne by the utility companies in retrofitting existing UWLFs or permitting new ones would undoubtedly be passed along to consumers at a time when economic conditions in the U.S. are less than ideal.

Enforcement:

There have been suggestions that Subtitle C is necessary so that USEPA will have enforcement authority. States are held accountable by their citizens through State statutes and obligations to regularly inspect landfills and investigate complaints, and to utilize State enforcement authority as warranted. Subtitle D requires State programs to have the necessary enforcement authority as part of the federal approval process. This approach has been successful for over a decade as evidenced by the relative absence of federal citizen suits or demonstrated failure of State Subtitle D programs. The States are not aware of USEPA expressing concerns regarding this State based enforcement approach in the municipal solid waste landfill program. A similar Subtitle D approach can successfully ensure compliance with minimum federal standards for coal combustion waste disposal facilities.

Applicability of Federal Regulations:

Based upon discussions to date with USEPA and States, it appears that the intended coverage of any federal CCB regulations would be limited to CCBs generated by coal-fired utilities, and not extended to CCBs generated by other industries. If this is correct, then the federal regulations should clearly make this distinction. Otherwise, an unreasonable burden will be placed upon the States to individually sort out the applicability issue, likely resulting in uneven application of the base federal requirements.

State Program Authorization:

Regardless of the regulatory approach selected, the States request that the procedures for authorization of State programs to implement the CCB rules be streamlined and designed to operate in harmony with existing Subtitle D (and/or Subtitle C) program authorization procedures. Where there are existing State programs in place regulating these materials, considerable deference should be given to the State program in the authorization process. States with CCB programs in place should be provided the option to 1) demonstrate that their programs are consistent with and not less stringent than the federal program, and 2) be more stringent than the federal program if they so choose. Further, authorization for any new CCB regulations should be treated as an amendment to a State's existing Subtitle D (or Subtitle C, as applicable) program authorization, as opposed to considering the CCB program as separate and distinct from existing authorizations.

Funding:

Federal funding may be necessary to help build State program capacity in the few States that do not have CCB programs if USEPA mandates standards under Subtitle D. It should be noted that some State Subtitle D programs would likely not seek federal funding for a Subtitle D program because of the impact that would have on current State solid waste program financing structures. As the ASTSWMO survey demonstrates, many States already have Subtitle D CCB programs and would not incur a financial hardship. On the other hand, State Subtitle C programs, which are supposed to be funded at a level of 75 percent federal funding, would require significant new appropriations. Thus, the federal funding needs for a Subtitle D approach would be much less than a Subtitle C regulatory approach.

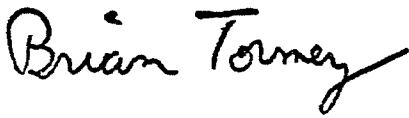
Any decisions to regulate the management and disposal of coal ash will likely have an implication for State regulatory programs including: the need to undertake regulatory action; authorization/approval for implementation (if necessary); budgetary impacts; and staffing/workload resource issues related to implementation (i.e., possible permitting/compliance/enforcement program impacts). The implications could have a dramatic impact on the already strained budgets of many State environmental agencies. It is hoped that USEPA's decision will include review of the work that many States have undertaken to regulate coal combustion by-products.

Summary:

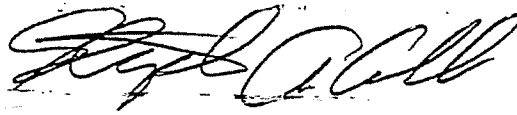
The ATSWMO ad hoc CCB Workgroup, based on results of a survey of States and State comments, recommends that if it is determined that federal regulation of CCB is necessary, Subtitle D regulations would be the preferred approach. Most States already regulate CCB under Subtitle D regulations. Furthermore, a Subtitle D approach would foster the beneficial use of appropriate CCB rather than inhibit it, as would a Subtitle C or hybrid Subtitle C/D approach.

On behalf of ASTSWMO, we thank you for your diligence in ensuring that the most efficient and effective regulatory approach to CCB is proposed.

Sincerely,



Brian Tormey (IA)
Chair
ASTSWMO Solid Waste Subcommittee



Stephen Cobb (AL)
Chair
ASTSWMO Hazardous Waste Subcommittee

cc: Rick Brandes (USEPA ORCR)
Rich Kinch (USEPA ORCR)
ASTSWMO Board of Directors
ASTSMWO ad hoc CCB Workgroup
Steve Brown (ECOS)
Linda Eichmiller (ASIWPCA)