

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.

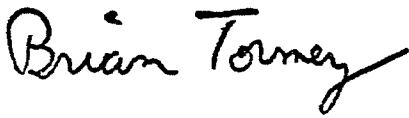
Any decisions to regulate the management and disposal of coal ash will likely have an implication for State regulatory programs including: the need to undertake regulatory action; authorization/approval for implementation (if necessary); budgetary impacts; and staffing/workload resource issues related 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:

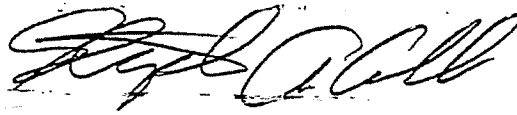
The ATSWMO ad hoc CCB Workgroup, based on results of a survey of States and State comments, recommends that if it is determined that federal regulation of CCB is necessary, Subtitle D regulations would be the preferred approach. Most States already regulate CCB under Subtitle D regulations. Furthermore, 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)

ASTSWMO SURVEY CONDUCTED FEB - MAR 2009 (www.astswmo.org)
SURVEY SUMMARY OF GENERAL QUESTIONS - RESULTS FOR STATES WITH CCB

Is coal combustion waste included in your State regulations?			
# STATES with CCB	YES	NO	NO RESPONSE
42	38	1	3

In general, which of the following best describes how CCB is regulated in your State:					
# STATES with CCB	Under regulations designed specifically for CCB	Under general industrial waste regulations	Under general solid waste regulations	Regulated only on a case-by-case basis	Unregulated
42	12	18	18	2	5

Are you considering changing your current regulations? If you checked "Yes", do you currently have a draft of your revised regulations?					
# STATES with CCB	Considering Changing Regulations		If "Yes", is there a draft of the revised regulations		No Response
	Yes	No	Yes	No	
42	15	25	4	11	3

Does your State prohibit or discourage the wet handling method of managing CCB?			
# STATES with CCB	YES	NO	NO RESPONSE
42	3	35	4

Does your State have information regarding the location and size of CCB landfills, and of the quantity of material disposed or approved for disposal in these units?										
# STATES with CCB	LANDFILLS									
	Location			Size			Quantity of Material Disposed/ Approved			No Response
	Yes	No		Yes	No		Yes	No		
42	35	2	0	35	3	0	34	6	0	5

Does your State have information regarding the location and size of CCB impoundments, and of the quantity of material disposed or approved for disposal in these units?										
# STATES with CCB	SURFACE IMPOUNDMENTS									
	Location			Size			Quantity of Material Disposed/ Approved			No Response
	Yes	No		Yes	No		Yes	No		
36	25	6	0	21	12	0	15	19	0	7

In the last 6 months, has your State inspected for the stability and safety of CCB:				
# STATES with CCB	LANDFILLS			
	Yes	No	In process of inspecting	No Response
42	23	8	6	5

In the last 6 months, has your State inspected for the stability and safety of CCB:				
# STATES with CCB	SURFACE IMPOUNDMENTS			
	Yes	No	In process of inspecting	No Response
36	7	12	5	13

Does your State have engineering standards that apply to the construction of CCB:			
# STATES with CCB	LANDFILLS		
	Yes	No	No Response
42	34	5	3

Does your State have engineering standards that apply to the construction of CCB:			
# STATES with CCB	SURFACE IMPOUNDMENTS		
	Yes	No	No Response
36	16	12	8

Does your State have groundwater monitoring data for CCB:			
# STATES with CCB	LANDFILLS		
	Yes	No	No response
42	33	6	3

Does your State have groundwater monitoring data for CCB:			
# STATES with CCB	SURFACE IMPOUNDMENTS		
	Yes	No	No response
36	19	10	7

ASTSWMO SURVEY CONDUCTED FEB - MAR 2009 (www.astswmo.org)
SURVEY SUMMARY OF QUESTIONS REGARDING CCB LANDFILLS - RESULTS FOR STATES WITH CCB LANDFILLS

Does your State have a permit program for CCB Landfills?			
# States with CCB	YES	NO	No Response
42	36	3	3

How many CCB landfills do you currently have operating in your State?
41 responding States had 277 CCB LFs

Does your State exempt landfills that receive captive wastes (meaning, wastes that are disposed on the site where they are generated) from permit requirements? If "Yes", does the exemption equate to a complete absence of regulations?								
# States with CCB	Exempt LFs that receive captive waste from permit requirements				If you answered Yes, does the exemption equate to a complete absence of regulation?			
	Yes	No	No Response		Yes	No	Explanation	No Response
42	5	34	3	0	1	3	4	0

# States with CCB	REGULATORY CLASSIFICATIONS FOR CCB LANDFILLS					No Response
	All CCB landfills receive the same type of permit under the State program	Different Classifications or of CCB Landfills Established in Regulations Based on:			Other (please explain)	
		Type	Source	Physical or Chemical Characteristics and/or Quantity of the CCB		
42	26	4	2	5	8	3

# States with CCB	Regulatory Requirement: BOTTOM LINER									BOTTOM LINER					Regulatory Requirement: BOTTOM LINER			
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Clay liner	Composite Liner	Dual/ Multiple Liners	Other	No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Landfills	Requirement Applies Only to Existing CCB Landfills	Requirement Applies Only to New/Lateral Expansions of CCB Landfill	No Response
	Yes	No	Yes	No	Yes	No	Yes	No										
42	27	5	22	4	8	15	14	13	4	19	21	9	2	12	12	2	25	6

# States with CCB	Regulatory Requirement: GROUNDWATER MONITORING									Regulatory Requirement: GROUNDWATER MONITORING			
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need evaluated on a case-by-case basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Landfills	Requirement Applies Only to Existing CCB Landfills	Requirement Applies Only to New/Lateral Expansions of CCB Landfills	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
42	34	4	16	10	8	15	12	12	3	31	0	4	7

# States with CCB	Regulatory Requirement: LEACHATE COLLECTION SYSTEM									Regulatory Requirement: LEACHATE COLLECTION SYSTEM			
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Landfills	Requirement Applies Only to Existing CCB Landfills	Requirement Applies Only to New/Lateral Expansions of CCB Landfills	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
42	22	11	17	8	8	13	15	12	3	9	0	21	11

# States with CCB	Regulatory Requirement: FINAL COVER SYSTEM (CAP)									Regulatory Requirement: FINAL COVER SYSTEM (CAP)			
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Landfills	Requirement Applies Only to Existing CCB Landfills	Requirement Applies Only to New/Lateral Expansions of CCB Landfills	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
42	33	3	17	8	4	17	9	16	3	31	0	4	7

# States with CCB	Regulatory Requirement: POST CLOSURE CARE									Regulatory Requirement: POST CLOSURE CARE			
	Minimum Requirement		Variance Allowed		Exemption ² Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Landfills	Requirement Applies Only to Existing CCB Landfills	Requirement Applies Only to New/Lateral Expansions of CCB Landfills	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
42	33	4	13	12	4	18	9	16	3	31	0	3	8

# States with CCB	Regulatory Requirement: SITING CONTROLS									Regulatory Requirement: SITING CONTROLS			
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Landfills	Requirement Applies Only to Existing CCB Landfills	Requirement Applies Only to New/Lateral Expansions of CCB Landfills	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
42	35	3	16	10	8	15	10	13	3	17	0	18	8

# States with CCB	Regulatory Requirement: CORRECTIVE ACTION									Regulatory Requirement: CORRECTIVE ACTION			
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Landfills	Requirement Applies Only to Existing CCB Landfills	Requirement Applies Only to New/Lateral Expansions of CCB Landfills	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
42	36	3	12	12	6	15	10	13	3	32	0	3	7

# States with CCB	Regulatory Requirement: STRUCTURAL STABILITY									Regulatory Requirement: STRUCTURAL STABILITY			
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Landfills	Requirement Applies Only to Existing CCB Landfills	Requirement Applies Only to New/Lateral Expansions of CCB Landfills	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
42	29	4	11	14	4	18	11	15	5	25	0	7	10

# States with CCB	Regulatory Requirement: FINANCIAL ASSURANCE									Regulatory Requirement: FINANCIAL ASSURANCE			
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Landfills	Requirement Applies Only to Existing CCB Landfills	Requirement Applies Only to New/Lateral Expansions of CCB Landfills	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
42	29	7	10	16	6	16	10	15	3	29	0	4	9

What were the foundational requirements your State used in setting up its CCB landfill regulations. Did you use the RCRA Part 258 Subtitle D Criteria as a starting point for the regulations? If "Yes", are your State regulations more stringent than the Part 258 Criteria?						
# States with CCB	Used Part 258 Criteria as a Starting Point?			If Yes, are your State regulations more stringent than the Part 258 Criteria?		No Response
	Yes	No		Yes	No	
42	16	23	0	5	14	3

# States with CCB	Number of Operating CCB Landfills with this Requirement									
	Bottom Liner	Groundwater Monitoring	Leachate Collection System	Final Cover System	Post Closure Care (Cap)	Siting Controls	Corrective Action	Structural Stability	Financial Assurance	No Response
42	30	31	29	31	31	32	29	28	32	9

Which of the following were considered in developing requirements for CCB landfills during the regulation development process?																		
# States with CCB	Waste Quantity	Waste Chemical Composition	Waste Physical Characteristics	Leachate Quality	Leachate Quantity	Co-Combustion (coal combusted with other type of fuels)	Cost (landfill construction or operating)	Climatic Conditions	Geographic Conditions	Geologic Conditions	Hydro-geologic Conditions	Potential Impact to Ground Water	Potential Impact to Surface Water	Other Environmental Concerns	Other General or Specific Factors	Industry Specific Input	Public Input	No Response
42	16	28	27	26	19	10	11	15	20	27	29	29	29	15	12	23	22	8

ASTSWMO SURVEY CONDUCTED FEB - MAR 2009 (www.astswmo.org)

SURVEY RESPONSES REGARDING CCB SURFACE IMPOUNDMENTS - RESULTS FOR STATES WITH CCB SURFACE IMPOUNDMENTS

Does your State have a permit program for CCB surface impoundments (either a landfill permit, NPDES permit, construction permit, or a combination)?

# States with CCB SIs	YES	NO	NO RESPONSE
36	25	3	8

How many CCB surface impoundments do you currently have operating in your State?

33 responding States had 257 CCB SIs

Does your State exempt surface impoundments that receive captive wastes (meaning, wastes that are disposed on the site where they are generated) from permit requirements? If "Yes", does the exemption equate to a complete absence of regulation?

# States with CCB SIs	Exempt SIs that receive captive waste from permit requirements				If you answered Yes, does the exemption equate to a complete absence of regulation?			
	Yes	No	No Response		Yes	No	Explanation	No Response
36	1	25	9	0	0	1	1	7

# States with CCB SIs	REGULATORY CLASSIFICATIONS				No Response	
	SURFACE IMPOUNDMENTS					
	All CCB surface impoundments receive the same type of permit under the State program	Different Classifications or Types of CCB Surface		Other		
Type		Physical or Chemical Characteristics and/or Quantity of the CCB				
36	18	1	1	5	13	

# States with CCB SIs	No Response	Number of Operating CCB Surface Impoundments with these Requirements								
		Bottom Liner	Groundwater Monitoring	Leachate Collection System	Final Cover System (Cap)	Post Closure Care	Siting Controls	Corrective Action	Structural Stability	Financial Assurance
36	19	82	125	35	82	76	64	101	78	65

# States with CCB SIs	Regulatory Requirement: BOTTOM LINER								No Response	BOTTOM LINER					Regulatory Requirement: BOTTOM LINER**			
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis			Clay liner	Composite Liner	Dual/Multiple Liners	Other	No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Surface Impoundments	Requirement Applies Only to Existing CCB Surface Impoundments	Requirement Applies Only to New/Lateral Expansions of CCB Surface Impoundments	No Response
	Yes	No	Yes	No	Yes	No	Yes	No										
36	12	5	6	4	4	6	7	4	14	11	10	6	0	12	9	0	7	20

# States with CCB SIs	Regulatory Requirement: GROUNDWATER MONITORING								Regulatory Requirement: GROUNDWATER MONITORING				
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need evaluated on a case-by-case basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Surface Impoundments	Requirement Applies Only to Existing CCB Surface Impoundments	Requirement Applies Only to New/Lateral Expansions of CCB Surface Impoundments	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
36	14	5	5	4	4	5	9	3	13	17	0	2	17

# States with CCB SIs	Regulatory Requirement: LEACHATE COLLECTION SYSTEM								Regulatory Requirement: LEACHATE COLLECTION SYSTEM				
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Surface Impoundments	Requirement Applies Only to Existing CCB Surface Impoundments	Requirement Applies Only to New/Lateral Expansions of CCB Surface Impoundments	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
36	5	11	2	5	3	4	7	3	15	7	0	4	25

# States with CCB SIs	Regulatory Requirement: FINAL COVER SYSTEM (CAP)								Regulatory Requirement: FINAL COVER SYSTEM (CAP)				
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Surface Impoundments	Requirement Applies Only to Existing CCB Surface Impoundments	Requirement Applies Only to New/Lateral Expansions of CCB Surface Impoundments	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
36	13	5	4	6	1	8	9	4	15	15	0	1	19

# States with CCB SIs	Regulatory Requirement: POST CLOSURE CARE								Regulatory Requirement: POST CLOSURE CARE				
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral	Requirement Applies Only to Existing CCB Surface Impoundments	Requirement Applies Only to New/Lateral Expansions	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
36	14	5	3	6	2	6	7	4	15	15	0	1	20

# States with CCB SIs	Regulatory Requirement: SITING CONTROLS								Regulatory Requirement: SITING CONTROLS				
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Surface Impoundments	Requirement Applies Only to Existing CCB Surface Impoundments	Requirement Applies Only to New/Lateral Expansions of CCB Surface Impoundments	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
36	14	4	5	5	3	6	7	4	14	10	0	7	19

#	Regulatory Requirement:								Regulatory Requirement:			
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States with CCB SIs	CORRECTIVE ACTION								CORRECTIVE ACTION				
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Surface Impoundments	Requirement Applies Only to Existing CCB Surface Impoundments	Requirement Applies Only to New/Lateral Expansions of CCB Surface Impoundments	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
36	15	3	3	6	2	6	10	3	14	20	0	1	16

# States with CCB SIs	Regulatory Requirement: STRUCTURAL STABILITY								Regulatory Requirement: STRUCTURAL STABILITY				
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Surface Impoundments	Requirement Applies Only to Existing CCB Surface Impoundments	Requirement Applies Only to New/Lateral Expansions of CCB Surface Impoundments	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
36	13	5	3	5	1	7	5	6	14	21	11	0	4

# States with CCB SIs	Regulatory Requirement: FINANCIAL ASSURANCE								Regulatory Requirement: FINANCIAL ASSURANCE				
	Minimum Requirement		Variance Allowed		Exemption Allowed		Need Evaluated on a Case-By-Case Basis		No Response	Requirement Applies to Both Existing and New/Lateral Expansions of CCB Surface Impoundments	Requirement Applies Only to Existing CCB Surface Impoundments	Requirement Applies Only to New/Lateral Expansions of CCB Surface Impoundments	No Response
	Yes	No	Yes	No	Yes	No	Yes	No					
36	11	9	0	7	0	7	3	5	15	10	0	1	25

Which of the following were considered in developing requirements for CCB surface impoundments during the regulation development process																		
# States with CCB SIs	No Response	Waste Quantity	Waste Chemical Composition	Waste Physical Characteristics	Leachate Quality	Leachate Quantity	Co-Combustion (coal combusted with other type of fuels)	Cost (landfill construction or operating)	Climatic Conditions	Geographic Conditions	Geologic Conditions	Hydro-geologic Conditions	Potential Impact to Ground Water	Potential Impact to Surface Water	Other Environmental Concerns	Other General or Specific Factors	Industry Specific Input	Public Input
36	18	14	15	12	13	10	5	5	8	9	11	12	15	15	8	7	11	12

Compilation of State Comments received by ASTSWMO regarding EPA Proposed Regulation of CCB

This compilation incorporates responses received by ASTSWMO as of March 31, 2009, from:

Colorado, Florida, Hawaii, Iowa, Kansas, Michigan, Missouri, Ohio, South Dakota, Tennessee, Virginia, West Virginia and Wisconsin.

The compilation includes copies of letters sent by some of these States directly to EPA.

Hawaii

Hawaii does not have any coal ash surface impoundments. However, we do have a couple of coal combustion plants whose ash is managed in-state. We have developed a risk-based approach in evaluating reuse options, and believe that our scientific approach is defensible. Based on the analytical data from the coal ash generated in Hawaii, we do not believe that Subtitle C nor a Subtitle C-D hybrid is appropriate. Even a Subtitle D disposal requirement, if similar to MSW Landfills, is questionable. Hawaii has provided EPA with substantial comments on their proposed guidelines for risk evaluation of coal ash in the last year or so, and we still believe that it's the direction that EPA should take, if any.

Kansas

On behalf of Kansas, I appreciate the opportunity to provide comments to ASTSWMO on EPA's potential development of new regulations on the disposal and beneficial reuse of coal combustion waste (CCW). Kansas has a full system of water and waste permits to ensure that these wastes are properly managed to prevent accidents such as occurred in Tennessee last year. Kansas recognizes that all states may not have a regulatory program that provides the safeguards that our state program in-place; however, EPA should not promulgate any CCW regulations that would impact state regulatory programs such as in Kansas. Any federal regulations should allow some flexibility in how state programs are administered rather than establish prescriptive management standards. EPA's rule should also not set complex equivalency demonstration criteria to prove that the existing state program is acceptable.

Kansas has eight major coal-burning power plants. Some of these facilities manage fly-ash and bottom ash as a "dry" waste and some slurry the waste into some type of containment system. If the waste is initially managed "wet" the containment system may be a constructed berm or dam, or an excavated lagoon. In some cases, wet waste is later removed from storage for either beneficial use or transfer to a dry waste landfill. In all cases, the CCW storage areas are covered by a landfill permit and in some cases by a wastewater permit as well. To obtain a permit for CCW management, the power company must provide the Bureau of Waste Management with comprehensive engineering plans, site geological information, a groundwater monitoring plan, a demonstration of financial assurance for closure and post-closure care, and an operating plan (among other required permit application documents). When the waste storage units are constructed, the company must provide third party construction quality assurance to document that the units have been constructed in accordance with approved engineering plans.

In addition to this high degree of regulatory oversight by the Kansas Department of Health and Environment related to permitting, Kansas has another level of regulatory control over these facilities - - an inspection program. KDHE inspects all permitted solid waste storage or disposal areas at least one time per year. During our inspections, the integrity of the containment systems are visually examined. On a less frequent basis, KDHE permit engineers also visit these sites and make observations of system integrity. Additional inspections are also carried out by the Kansas Division of Water Resources (DWR). Every three years, DWR inspects dams that meet certain criteria: (1) the dam or berm must be greater than or equal to 25 feet in height or (2) the dam or berm must be at least 6 feet high and retain 50 acre-feet of liquid.

None of the Kansas CCW storage and disposal facilities have the potential to cause a disaster such as occurred in Tennessee. A couple facilities are located adjacent to rivers or large lakes which does present some risk to the environment, but there are no downstream cities or neighborhoods that could be impacted by a release from any facility. This combined with the present comprehensive permitting program makes an additional level of federal regulation a concern during this time of reduced resources to administer all solid and hazardous waste programs. EPA should try its hardest to avoid causing states to divert limited technical resources from existing permitting or compliance and enforcement work to address a non-problem in those states with existing permitting programs.

I would be happy to provide more details about Kansas' regulated universe or our regulatory program. Please let me know if you have any questions.

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). Michigan's program for Solid Waste Management has been in place since 1978. These regulations were amended 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.) Low-hazard industrial waste in Michigan may be disposed of in a landfill that has less-stringent design standards than a landfill taking either industrial or municipal solid waste, or it may be disposed of in a permitted surface impoundment.

Michigan currently has eight sites that accept only coal ash and/or associated wastes from coal-fired power plants. Four of the facilities are surface impoundments, and four are solid waste landfills. Coal ash is also disposed of in combination with other wastes in numerous low-hazard industrial waste landfills, industrial landfills, and municipal solid waste landfills located throughout the state.

The four active surface impoundments were all in existence prior to the enactment of Michigan's Solid Waste Management Act in 1978 and were grandfathered-in without necessarily meeting the current requirements for the design and siting of such facilities. Three of the four surface impoundments are in the process of closing and/or converting to dry handling systems.

Michigan's design standards for low-hazard industrial waste landfills require liner systems comprised of either a natural soil liner not less than ten feet thick and demonstrating a hydraulic conductivity of no more than 1.0E-7 cm/sec, a three-foot thick recompacted clay liner demonstrating the same hydraulic conductivity, or a composite liner system incorporating a flexible membrane liner and a low hydraulic conductivity soil layer.

Landfills and surface impoundments are required to be permitted and licensed; must provide financial assurance; are subject to either groundwater monitoring or required to obtain a NPDES discharge permit; must provide for leachate collection in landfills; must have 30-year post-closure care obligations; and are subject to corrective action, if necessary.

The statutory provisions of Part 115, of the NREPA also exempt coal ash from regulation as a solid waste under certain conditions when the ash is used as a component of concrete, grout, mortar, or casting molds; when the ash is used as a raw material in asphalt for road construction; when the ash is used as aggregate or road or building material which will be stabilized or bonded by cement, limes or asphalt; or when the ash is used as a road base or construction fill that is covered with asphalt, concrete, or other material approved by the state.

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.

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

Missouri has comprehensive regulations in place for the design and permitting of utility waste landfills. Missouri promulgated regulations in 1997 specifically for utility waste landfills (UWLF.) Utility waste landfills permitted pursuant to these regulations are subject to numerous requirements designed to protect public health and the environment, including: 1.) a geologic and hydrologic evaluation to determine if the site is suitable for construction of a landfill; 2.) a liner with QA/QC procedures to ensure proper construction; and, 3.) a leachate collection system and to monitor groundwater. The Missouri Department of Natural Resources (MDNR) inspects all permitted solid waste disposal areas at least one time per year to ensure compliance.

Missouri has a number of coal burning power plants. Most of the facilities do manage their fly ash short term in surface impoundments prior to beneficial use or final disposal in a UWLF. However, these surface impoundments are bowl shaped depressions in the ground (in contrast to the raised structures used at the Tennessee Valley Authority facility.) The outfalls from these ponds and from landfills are monitored under the National Pollution Discharge Elimination System permitting process.

Missouri regulations allow the beneficial reuse of coal combustion by products. We have a number of state-wide general beneficial use (SWGBU) approvals that allow the holder to use the ash as structural fill, road base, as a soil amendment or for soil stabilization provided they meet certain criteria. One such user is the Missouri Department of Transportation (MDOT), who uses fly ash in many of their highway projects. One project in southwestern Missouri is expected to use between 1 and 1.5 million cubic yards of fly ash.

Testing is required for beneficially reused materials. Testing includes 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. The 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 of Missouri. 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 part of Missouri's vision for 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 who use bottom ash as snow and ice control who would have to purchase chemicals or salts to treat the roads. MDOT and other entities using CCB would have to purchase soil to use in place of the fly ash 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.

None of the testing data Missouri has to date indicates this material is leachable or an environmental concern. The TVA collapse seems to be more of a safety concern at that particular site related to dam safety and potentially the placement of the basin rather than of the material itself.

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.

It is currently unknown how existing, permitted UWLFs would be handled if CCBs became subject to Subtitle C regulation. Retrofitting of existing 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.

In summary, Missouri has adequate regulatory controls for coal combustion by-products. EPA 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, EPA should recognize that many states have adequate controls in place and allow them to maintain

their programs. EPA could then focus its efforts on correcting any deficiencies identified by their investigations.

South Dakota

I am sending you this email to express our thoughts on regulating coal ash in surface impoundments. We in SD do not have "surface impoundments" like the TVA's or others. Our one ash disposal site is a dry tomb landfill rather than a surface impoundment with all of the issues dealing with the force of moisture and dam structures. One proposed expansion and one proposed new power plant generating coal ash will also use dry tomb landfills rather than surface impoundments. However, if regulations are going to be promulgated by EPA my fear is these regulations will not only address surface impoundments but also coal ash in general especially if EPA determines coal ash is a hazardous waste. We currently issue our state solid waste rules to permit disposal of coal ash. We use rules and standards governing our municipal solid waste facilities - better known as Subtitle D facilities- for coal ash disposal facilities. We may need standards for surface impoundments such as the TVA like facilities but to identify coal ash as a hazardous waste would be a mistake. Managing coal ash according to applicable Subtitle D standards are adequate to managing coal ash in a dry tomb landfill situation.

Virginia

The Commonwealth of Virginia has established a comprehensive program to regulate coal combustion waste under the oversight of the Virginia Department of Environmental Quality (DEQ). The Virginia Solid Waste Management Regulations (VSWMR), [9 VAC 20-80](#), provide criteria for facilities that store, treat, or dispose of solid waste. Facilities that will dispose of coal combustion waste (CCW) in a landfill are required to meet the industrial landfill provisions of the VSWMR, to obtain a permit in accordance with those regulations, and are subject to regular inspection by solid waste compliance staff. These industrial landfill requirements provide standards for siting, design, operation, monitoring, closure, and post-closure of the landfill. The VSWMR also allow for certain exclusions and exemptions from CCW's regulation as a solid waste when the material is beneficially reused (i.e., when used in manufacturing of products, used as base/sub-base fill under footprint of road, building, or other structure, and other uses as excluded/exempted by this regulation). Additionally, Virginia has promulgated a separate regulation, the Coal Combustion By-Products Regulation, [9 VAC 20-85](#), which provide regulatory criteria for the use, reuse, or reclaiming of these materials by applying them to or placing them on land in a manner other than addressed in the VSWMR. Coal combustion by-products (CCB) are defined as residuals, including fly ash, bottom ash, boiler slag, and flue gas emission control waste produced by coal- fired electrical or steam generating units. CCW's managed within surface impoundments and lagoons are regulated under state water control laws. These units are permitted and inspected by Virginia's water program.

As detailed above, Virginia has an effective regulatory program for management of CCW/CCB. EPA's proposal to issue regulations regarding the management of CCW may impact these regulations and programs. The potential implications to Virginia's beneficial use of CCB for each of EPA's presented regulatory options are:

(1) Regulate under RCRA Subtitle D (this was the decision made in 2000)

The effect on current allowed beneficial uses should be minimal unless specific prohibitions are included in this regulatory action.

(2) Regulate under RCRA Subtitle C (likely using the authorities contained in Section 3004(x) of RCRA)

If EPA was to regulate CCW 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.

(3) Regulate under a hybrid system of RCRA Subtitles C and D

The effect of this option will most likely depend on the regulation developed by EPA. Possibly some beneficial uses may still be allowed contingent upon how EPA will classify CCW.

It should be noted that full effect of this action will not be known until proposed language is provided by EPA. However, any decisions to regulate the management and disposal of coal ash will likely have an implication for Virginia's 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 all ready strained budgets of many state environmental agencies. It is hoped that EPA's decision will include review of the work that many states, including Virginia, have undertaken to regulate coal combustion waste.