

**H.R. 493, COAL ASH
RECLAMATION, ENVIRONMENT,
AND SAFETY ACT OF 2009**

LEGISLATIVE HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND
MINERAL RESOURCES

OF THE

COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

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CONTENTS

	Page
Hearing held on Thursday, February 12, 2009	1
Statement of Members:	
Costa, Hon. Jim, a Representative in Congress from the State of California	6
Prepared statement of	8
Lamborn, Hon. Doug, a Representative in Congress from the State of Colorado	4
Prepared statement of	5
Lummis, Hon. Cynthia M., a Representative in Congress from the State of Wyoming	42
Prepared statement of	42
Rahall, Hon. Nick J., II, a Representative in Congress from the State of West Virginia	2
Prepared statement of	3
Statement of Witnesses:	
Akins, N.K. (Nick), Executive Vice President for Generation, American Electric Power	27
Prepared statement of	28
Response to questions submitted for the record	45
Craynon, John R., P.E., Chief, Division of Regulatory Support, Office of Surface Mining Reclamation and Enforcement, U.S. Department of the Interior	10
Prepared statement of	11
FitzGerald, Tom, Director, Kentucky Resources Council, Inc.	13
Prepared statement of	15
Suggested Amendments To H.R. 493	17
Response to questions submitted for the record	46
McAteer, J. Davitt, Vice President for Sponsored Programs, Wheeling Jesuit University	18
Prepared statement of	20
Response to questions submitted for the record	52
Additional materials supplied:	
Gruzesky, Sandra, P.E., Director, Division of Water, Department for Environmental Protection, State of Kentucky, Statement submitted for the record	24
List of documents retained in the Committee's official files	52

**LEGISLATIVE HEARING ON H.R. 493, TO
DIRECT THE SECRETARY OF THE INTERIOR
TO PROMULGATE REGULATIONS CON-
CERNING THE STORAGE AND DISPOSAL OF
MATTER REFERRED TO AS “OTHER
WASTES” IN THE SURFACE MINING CON-
TROL AND RECLAMATION ACT OF 1977, AND
FOR OTHER PURPOSES. “COAL ASH REC-
LAMATION, ENVIRONMENT, AND SAFETY
ACT OF 2009”**

**Thursday, February 12, 2009
U.S. House of Representatives
Subcommittee on Energy and Mineral Resources
Committee on Natural Resources
Washington, D.C.**

The Subcommittee met, pursuant to call, at 10:10 a.m. in Room 1324, Longworth House Office Building, Hon. Jim Costa [Chairman of the Subcommittee] presiding.

Present: Representatives Costa, Lamborn, Sarbanes, Rahall, Chaffetz, and Lummis.

Mr. COSTA. The legislative hearing of the Subcommittee on Energy and Mineral Resources will now come to order.

This morning the Subcommittee will hear testimony on H.R. 493, which was introduced by the Chairman of the Natural Resources Committee, my good friend, Chairman Rahall, from West Virginia. This bill would direct the Secretary of the Interior, if it were to become law, to promulgate regulations concerning the storage and disposal of matter that is commonly referred to as “other wastes” in the Surface Mining Control and Reclamation Act of 1977, and for other purposes.

We are going to hear testimony this morning with four distinguished witnesses who have expertise in this area on not only the construct of the legislation, but also any advice they have in terms of how we can incorporate best management practices, given the science, to ensure that we protect health and safety, and we do it in a cost-effective way.

I have a few ministerial items that I must dispense with at this time. Under Committee Rule 4[g], the Chairman and Ranking

Member—that is my colleague here, Mr. Lamborn, and I can make opening statements. And if other Members have statements, they can be included in the hearing record under unanimous consent.

We will defer a bit from that this morning to allow the Chairman of the full committee, Chairman Rahall, whose distinguished service for many years—not that he is old, but he was very young when he came here—

[Laughter.]

Mr. COSTA. I call that Arctic blond. And Doc Hastings, who is also a good friend, and is from the State of Washington, to make opening comments, along with my Ranking Member and myself.

And then for the rest of the Members, if you do have statements, we will submit them for the record, because we want to get to the heart of the matter, which is the four witnesses that we have here today, and allow them to present their testimony, so that we can then proceed with the questions and comments.

In addition, for Members of the Subcommittee and for those new Members, under Rule 4[h], any materials that are submitted for inclusion in the hearing record must be submitted no longer than 10 days within the hearing date period. And if you have any additional questions which you would like to submit to the witnesses, we have that 10-day period. We would only ask to assist both Minority and Majority staff that you do it sooner, rather than later. It is helpful to the witnesses, and it is helpful for us to get the answers back, and that they can be included in the record.

With that said, I will defer to the Chairman of the Natural Resources Committee, Chairman Rahall, to give his opening statement. This is his legislation. This is something that he has a long track record and experience with, not just as it relates to the coal mining industry in West Virginia, but resources throughout the nation. And we look forward to hearing from you.

Chairman Rahall.

STATEMENT OF THE HONORABLE NICK J. RAHALL, II, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WEST VIRGINIA

Mr. RAHALL. Thank you, Mr. Chairman. I appreciate your not only having this hearing today, but the fact that you are making this the first issue to be considered by your Subcommittee in this Congress.

I want to congratulate the gentleman from Colorado, Mr. Lamborn, on becoming your Ranking Member on the Subcommittee.

When I introduced H.R. 493, I noted that years ago, a West Virginia coal miner wrote a letter to me noting that every single Federal law regulating coal was penned in blood. He was referring to the fact that it took a 1968 explosion claiming 78 souls in a mine in Farmington, West Virginia, to give rise to the Federal Coal Mine Health and Safety Act of 1969. And that it took the failure of a coal slurry impoundment at Buffalo Creek in Logan County, West Virginia that killed 125 people for the Congress to finally pass the Surface Mining Control and Reclamation Act of 1977.

When that facility owned by the Tennessee Valley Authority gave way, unleashing an avalanche of coal ash sludge that covered more

than 300 acres, I noted that this time Heaven intervened. And thankfully, no lives were lost.

We need to learn a lesson from what happened in Kingston, Tennessee. This issue cannot be ignored. I believe we have a ticking time bomb on our hands.

The electric utility industry generates 131 million tons of coal ash each year, yet the disposal of this massive amount of material is the subject of a patchwork of state regulations: some very good, some not so good, some bordering on the non-existent.

The bill that I have introduced seeks to deal with just one aspect of the issue of regulating the management of coal combustion waste. It is a rifle shot aimed at ensuring the structural stability of coal ash impoundment.

There remains, of course, the much broader issue of regulating the disposal of these wastes in landfills and in coal mines.

Last week, I sent a letter to the EPA Administrator, Lisa Jackson, urging her to move forward with a comprehensive coal combustion waste regulatory regime under the Resource Conservation and Recovery Act. Congress directed EPA to do this back in 1980. Twenty-nine years later, 29 years later, there are still no regulations on the books.

I look forward to hearing from our witnesses today. Davitt McAteer, from my home State of West Virginia, is an expert on so many coal-related issues. He has been our guru when it comes to mine health and safety in our State of West Virginia. He has a national record in that regard. And he is a man most qualified to speak on this and so many coal-related issues.

Tom FitzGerald, we recognize and welcome you, as well. I'm certainly happy to have both of these gentlemen, who have worked with my staff and myself for a number of years, and I appreciate your taking time to come to Washington for this hearing, as well as all of the panelists. We welcome you.

And thank you, Mr. Chairman, again for recognizing me.

[The prepared statement of Mr. Rahall follows:]

**Statement of The Honorable Nick J. Rahall, II, Chairman,
Committee on Natural Resources**

Thank you, Chairman Costa, for holding this hearing and for making this the first issue to be considered by the Subcommittee in the new Congress. To the gentleman from Colorado, Mr. Lamborn, congratulations on your being named as the Subcommittee Ranking Member.

When I introduced H.R. 493, I noted that years ago a West Virginia coal miner wrote a letter to me noting that every single federal law regulating coal was penned in blood. He was referring to the fact that it took a 1968 explosion claiming 78 souls at a mine in Farmington, West Virginia, to give rise to the Federal Coal Mine Health and Safety Act of 1969. And that it took the failure of a coal slurry impoundment at Buffalo Creek, in Logan County, West Virginia, that killed 125 people, for the Congress to finally pass the Surface Mining Control and Reclamation Act of 1977.

When that facility owned by the Tennessee Valley Authority (TVA) gave way, unleashing an avalanche of coal ash sludge that covered more than 300 acres, I noted that this time Heaven intervened, and thankfully no lives were lost.

We need to learn a lesson from what happened at Kingston, Tennessee. This issue cannot be ignored. I believe we have a ticking time bomb on our hands.

The electric utility industry generates 131 million tons of coal ash each year. Yet, the disposal of this massive amount of material is the subject of a patchwork of State regulation, some very good, some not so good, some bordering on the non-existent.

The bill I have introduced deals with just one aspect of the issue of regulating the management of coal combustion wastes. It is a rifle shot aimed at ensuring the structural stability of coal ash impoundments. There remains the much broader issue of regulating the disposal of these wastes in landfills and coal mines.

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I look forward to hearing from the witnesses today. Davitt McAteer is from my home State of West Virginia, and is an expert on many coal-related issues. Tom FitzGerald, welcome also. Both of these gentlemen have worked with my staff and me for many, many years, and I appreciate your taking the time to come to Washington, D.C., for this hearing, as well, to all of the witnesses. Thank you.

Mr. COSTA. Thank you, Chairman Rahall, for setting the table in, I think, a very illustrative way that talks about the importance of this legislation that we are going to be hearing about today.

I would like to defer at this time to my colleague, the Ranking Member of the Subcommittee, Mr. Lamborn from Colorado.

STATEMENT OF THE HONORABLE DOUG LAMBORN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF COLORADO

Mr. LAMBORN. Thank you, Mr. Chairman. And I want to thank all the members of the public who are here, and the witnesses.

Also on the Subcommittee, I want to welcome two of the new Members who are on the Subcommittee, Mr. Chaffetz from Utah and Mr. Fleming from Louisiana. And also the ex officio Ranking Member of the full committee, Rep. Hastings from Washington.

And thank you, Mr. Chairman, also for holding this important legislative hearing on H.R. 463, the Coal Ash Reclamation, Environment, and Safety Act of 2009.

This is my first hearing as Ranking Member of this Subcommittee, and as such, I look forward to working with you to address the pressing energy and mineral needs facing our nation. This committee has jurisdiction over the many rich resources of our Federal lands.

Today's hearing focuses on coal, which could be America's largest energy source. But we will also focus later on oil and natural gas, both of which America has in abundance. In addition, we should examine America's carbon-free energy sources.

Ensuring that the lands under our jurisdiction can be used to promote wind, solar, tidal, geothermal, and hydropower, and that we are working to promote a sound supply of uranium for America's nuclear future, are also priorities.

I look forward to working with you over the next two years, Mr. Chairman, to address what I believe is our shared goal: energy independence for America.

That said, today's hearing is focused on developments from a disaster last December, where the Tennessee Valley Authority, or TVA's, Kingston, Tennessee coal-fired power plant suffered a dam failure that released 5.4 million cubic yards of coal ash, covering 300 acres of land and spilling into the Emory River adjacent to the plant. This accident has brought renewed attention to the reuse, storage, and disposal of coal ash, a byproduct of burning coal for electrical power generation.

A second spill of gypsum slurry at another TVA coal-fired power plant just three weeks later raised additional questions about the safety and accountability of maintenance at power plants.

While most of the land area covered by the Kingston failure is owned by TVA, the ash impacted 40 private homes, destroying three. Fortunately, water analysis of private wells, river water, and treated water conducted by the Tennessee Department of Environment and Conservation did not show any values above drinking water standards.

TVA is a government entity created in 1933 as part of President Roosevelt's New Deal effort to bring the country out of the Great Depression. Historically, jurisdiction of TVA does not come under this committee, but rather, under the jurisdiction of the Transportation and Infrastructure Committee.

The fly ash impoundments and landfills at coal-fired power plants are regulated by state agencies that have delegative authority from EPA for Clean Water Act permits, and state agencies with responsibility for dams and waste disposal. Currently there is not a national standard for such dam safety.

Regulation of impoundments at coal mines comes under the Surface Mine Control and Reclamation Act of 1997, which is overseen by the Office of Surface Mining in the Department of the Interior.

Coal is mined in 27 states, 24 of which have delegated authority under SMCRA. However, 37 states rely on power generated from coal-fired power plants. Remember, 50 percent of the nation's electricity is generated from coal-fired power plants.

In my own State of Colorado, 70 percent of our power is generated from coal. But I digress.

My main point here is that under this legislation, the Office of Surface Mining will have to expand into 10 additional states, and it seems that such an expansion will further complicate an already complicated jurisdictional and regulatory picture.

Moreover, there does not seem to be a funding mechanism in the legislation to accomplish such an expansion and enforce the requirements of the proposed legislation.

I would suggest a more surgical approach to work with the states that have coal-fired power plants and the Federal agencies with regulatory authority over these facilities to identify any gaps in the regulatory framework to develop a national standard or best practices for these facilities.

I look forward to hearing from our witnesses today. And I also look forward to working with the Chairman to address these and other problems.

Thank you, and I yield back.

[The prepared statement of Mr. Lamborn follows:]

**Statement of The Honorable Doug Lamborn, Ranking Member,
Subcommittee on Energy and Mineral Resources**

Thank you, Mr. Chairman, for holding this important legislative hearing on H.R. 463 the "Coal Ash Reclamation, Environment, and Safety Act of 2009."

This is my first hearing as Ranking Member of this Subcommittee, and as such, I look forward to working with you to address the pressing energy and mineral needs facing our nation. This Committee has jurisdiction over the rich resources of our federal lands.

Today's hearing focuses on coal, which could be America's largest energy source, but we also will focus later on oil, natural gas both of which America has in abundance. In addition, we should examine America's carbon free energy sources.

Ensuring that the lands under our jurisdiction can be used to promote wind, solar, tidal, geothermal and hydropower, and that we are working to promote a sound supply of uranium for America's nuclear future. I look forward to working with you over the next two years, Mr. Chairman, to address what I believe is our shared goal, energy independence for America.

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Regulation of impoundments at coal mines comes under the Surface Mine Control and Reclamation Act of 1997 (SMCRA) which is overseen by the Office of Surface Mining in the Department of the Interior. Coal is mined in 27 states, 24 of which have delegated authority under SMCRA. However, 37 states rely on power generated from coal fired power plants. Remember 50% of the nation's electricity is generated from coal-fired power plants.

In my own state of Colorado 70% of our power is generated from coal, but I digress—my main point here is that under this legislation the Office of Surface Mining will have to expand into 10 additional states. And it seems that such an expansion will further complicate an already complicated jurisdictional and regulatory picture. Moreover, there does not seem to be a funding mechanism in the legislation to accomplish such an expansion and enforce the requirements of the proposed legislation.

I would suggest a more surgical approach to work with the states that have coal fired power plants and the federal agencies with regulatory authority over these facilities to identify any gaps in the regulatory framework to develop a national standard or best practices for these facilities.

I look forward to hearing from our witnesses today and also look forward to working with the Chairman to address this problem.

STATEMENT OF THE HONORABLE JIM COSTA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. COSTA. Thank you very much, gentleman from Colorado, for your constructive comments in general, and specifically your observations as it relates to the legislation before us.

I would like to open on my comments at this point in time, first to tell Members of the Subcommittee that we welcome all of you. And for those of you who I have had the opportunity and pleasure to work with in the past, I want to continue the comity and the bipartisan working relationships that I have tried to maintain since I have come to Congress.

For those of you that are new Members, I welcome you. This is a, I think, one of the very interesting and important Subcommittee

tees, not only for the full Natural Resources Committee, but one of the important Subcommittees in Congress. Because we are the stewards of resources on Federal lands, resources that provide so much important energy and materials for our nation.

But yet, Federal lands which we also have a dual responsibility to protect and maintain for future generations. These lands, after all, belong to all Americans.

And so the difficult part that this Subcommittee has, along with the full committee of course, is to provide that balancing act; to be good stewards of lands that are under the custody of this policy committee, but belong to all Americans; and yet, at the same time, to provide a balance to utilize those in what are good, mindful practices that protect it for future generations to come.

The 111th Congress and the first meeting of this Subcommittee will focus again on disposal of coal ash, because of the importance that Chairman Rahall indicated in his opening statement. But we will have an active schedule that will, I will share with the Subcommittee Members as we continue to meet, not only this year, but next year, throughout the 111th Congress. And I look forward to doing good work with each and every one of you.

The witnesses that we have will testify on a host of issues: the growing quantity of coal ash that we produce when we burn coal at our power plants. There are about 131 million tons a year; that is equivalent to the United States' entire municipal solid waste production. It is a large waste stream that we are dealing with here.

There are dangerous elements within coal ash, as was noted before. It contains arsenic, selenium, mercury, and other heavy metals that can cause cancer and impact the nervous systems for all of us. The risks, therefore, presented by the lack of Federal regulation and inconsistent state regulation on coal ash I think is significant. And trying to develop a uniform standard is what the legislation that Chairman Rahall has introduced, frankly is all about.

Almost all seven expert witnesses last year, when we last held a hearing on this matter, as a result of Congressman Sarbanes' interest because of issues that he has dealt with first-hand in his own Congressional district, provided information as it relates to state agencies. That hearing called for a minimum Federal standard for coal ash disposal, to protect citizens and our natural resources.

But we had a witness that testified that called for the current approach to coal ash disposal as foolish and dangerous. This was last year, before the incident that took place in December.

A professor from the University of Colorado School of Law predicted that he believed that if we did nothing, that we could expect to see problems in the future. And of course, sadly that has proved prophetic.

In June 2008, the coal ash hearing that we held was just the beginning of the Subcommittee's work, which is why we are holding this hearing today. The disaster that took place in the Tennessee Valley Authority Kingston coal-fired power plant in December, plus coal ash from, put it front and center as it relates to this Subcommittee's efforts. That is why we are holding this as our first hearing.

The Kingston spill focuses us specifically on surface impoundments and ash ponds, and the roughly one quarter of the coal ash that is dumped in them. And Kingston, Tennessee did not have a unique coal ash pond. There are plenty of bigger coal ash impoundments nationwide. We have substantiated that on material that has been provided to you, in a report that was provided by the Environmental Integrity Project.

For example, a plant in Orlando disposal of over one million pounds of lead surface impoundments between 2000 and 2006, three times as much as contained in the Kingston during that same time period.

The legislation that we are going to be discussing here today, and that we want our witnesses to testify on, H.R. 493, the Coal Ash Reclamation Enforcement and Safety Act of 2009. As we noted, this bill, as Chairman Rahall noted and I concur, is all about common sense. It will make coal ash ponds and utilities at TVA safer. New impoundments would meet standards and stability for careful design, and they would provide uniformity throughout the country if this legislation were to become law.

It would also require national assessment of roughly 300 existing impoundments, and create a Federal authority to require changes, if needed, to make those 300 impoundments safer. And it will ensure regular oversight and inspections on all that would qualify under this legislation, were it to become law.

We look forward to hearing from the four witnesses today on the spill, and get their perspectives on how to best, how to best prevent coal and ash pond spills and leaks in the future.

[The prepared statement of Mr. Costa follows:]

**Statement of The Honorable Jim Costa, Chairman,
Subcommittee on Energy and Mineral Resources**

Today is the first hearing of the 111th Congress of the Energy and Mineral Resources Subcommittee.

Our first priority is to make disposal of coal ash safe for people and communities.

Last year, the Subcommittee examined the environmental and health risks of coal ash. Witnesses at that June 2008 hearing testified on:

- The growing quantity of coal ash we produce when we burn coal at power plants—about 131 million tons a year, equivalent to U.S. municipal solid waste production.
- The dangerous elements of coal ash—it contains arsenic, selenium, mercury and other heavy metals. These can cause cancer or damage the nervous system.
- The risks presented by the lack of federal regulation and inconsistent state regulation of coal ash.

Almost all the seven expert witnesses last year, including a state agency, called for a minimum Federal standard for coal ash disposal to protect citizens and their natural resources. A witness from Earthjustice called the current approach to coal ash disposal “foolish and dangerous.” And, a professor from the University of Colorado School of Law predicted, “I think we can expect to see problems in the future.”

The June 2008 coal ash hearing was just the beginning of our Subcommittee’s examination of coal ash disposal options and management.

The disaster with coal ash at the Tennessee Valley Authority’s Kingston coal-fired power plant in December puts coal ash front and center on our agenda. The Kingston spill focuses us specifically on surface impoundments or “ash ponds”—and the roughly one-quarter of coal ash that is dumped in them.

Kingston, Tennessee did not have unique coal ash ponds. There are plenty of bigger coal ash impoundments nationwide. Some hold far more chemicals according to a January report by the Environmental Integrity Project. For example, a plant in Orlando disposed of 1 million pounds of lead in surface impoundments between 2000 and 2006—three times as much as Kingston in the same period.

Our Natural Resources Committee Chairman, Rep. Rahall, took immediate action after the Tennessee coal ash disaster by introducing H.R. 493, the legislation we will focus on today.

This bill is about common sense. It will make coal ash ponds at utilities, like the impoundment's at Tennessee Valley Authority's Kingston Plant, safer. New impoundments would meet standards for stability and careful design. It will require a national assessment of the roughly 300 existing impoundments and creates Federal authority to require to changes, if needed, to make them safe. And, it will ensure regular oversight and inspections.

I look forward to hearing from our 5 witnesses today on this bill—and their perspectives on how best to prevent future coal ash pond spills and leaks.

Mr. COSTA. With that, let us move to the witnesses. Let me first note that Members of the Subcommittee and those in the audience may have, when you received the witness list, noticed that we had five individuals testifying here this morning. Sadly, Ms. Sandy Gruzesky, who is the Director in the Division of Water for the Department of Environmental Protection for the State of Kentucky, has, I have been informed, been in an auto accident. And sadly, she has had serious injuries. Her colleague, who will testify today, Mr. FitzGerald, has indicated that she is in surgery this morning. We want to convey our thoughts and prayers to Ms. Gruzesky and her family, and we wish her a speedy recovery.

And so, Members of the Subcommittee, we will have four witnesses that we will begin here today.

We have Mr. John Craynon, Chief, Division of Regulatory Support for the Office of Surface Mining Reclamation and Enforcement with the Department of the Interior.

We have Mr. Tom FitzGerald, Director for the Kentucky Resources Council, who informed us of Ms. Gruzesky's circumstance. And we thank you for coming.

We have Mr. Davitt McAteer, who Chairman Rahall spoke of earlier, who is the Vice President for Sponsored Programs and the CEO for the Center of Educational Technologies and National Technological Transfer Center at a fine university, Wheeling Jesuit University in West Virginia.

And Nick Akins, the Executive Vice President for Generation of the American Electric Power Service Corporation.

Gentlemen, I don't know how many of you have testified before, but we have some simple rules here. If you notice, on my left is a device that keeps time. And it has a green light, and it has a yellow light, and it has a red light. You have five minutes. At the end of four minutes that green light will change to yellow, and that means you have a minute left. And then when it turns red, your chair will eject. No, that doesn't happen.

[Laughter.]

Mr. COSTA. But we do want you to be timely in that. And when you see it red, to begin to wind up your comments. And we try to follow the time rule so that everybody gets an opportunity to testify, and everybody gets an opportunity to get to the part we like best, which is the question-and-answer period.

Having said that, Mr. John Craynon, Chief, Division of Regulatory Support with the Office of Surface Mining Reclamation and Enforcement for the Department of the Interior, you are on. You are first, and we look forward to your testimony.

**STATEMENT OF JOHN R. CRAYNON, CHIEF, DIVISION OF
REGULATORY SUPPORT, OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT, U.S. DEPARTMENT OF
THE INTERIOR**

Mr. CRAYNON. As you can tell, I am a first-timer; I didn't know to turn the microphone on.

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to participate in this hearing to discuss the important issues relating to coal ash impoundments and storage areas that are addressed by H.R. 493, the Coal Ash Reclamation, Environment, and Safety Act of 2009.

My name is John Craynon, and I am Chief of the Division of Regulatory Support at the headquarters office of the Office of Surface Mining Reclamation and Enforcement. I have been at OSM for over 12 years, and have spent the past 25 years at the Department of the Interior. I am also a professional engineer, licensed in the Commonwealth of Virginia.

The Department of the Interior and the Administration are currently weighing how best to address this legislation. The Administration has not yet come to a conclusion, as we consider different regulatory authorities and approaches for this issue, but will do so in the future.

The remainder of my comments today focus on the technical aspects of the bill, and are not intended to be the official position of the Department or the Administration on this legislation.

Impoundment safety was one of the motivating factors for the passage of the Surface Mining Control and Reclamation Act of 1977, and the creation of the bureau for which I work. The failure of a coal waste impoundment at Buffalo Creek, West Virginia, which Chairman Rahall has noted earlier, resulted in a catastrophic loss of life and enormous property damage, and that provided the impetus for legislative action.

Impoundment safety is an integral part of the Surface Mining Regulatory Program, as it has been from the very beginning. The recent failures of coal ash impoundments in power plants operated by the Tennessee Valley Authority have created a similar impetus for action, this time regarding the construction and safety of impoundments at non-mining sites.

H.R. 493 assigns three major responsibilities to the Secretary of the Interior. First, it requires him to establish a regulatory framework for coal ash impoundments, using the provision of SMCRA related to impoundments and waste piles as the foundation.

Second, the bill requires him to conduct an inventory of existing impoundments, including an assessment of the risks they pose to human health and the environment.

Third, the bill provides the Secretary with the authority to issue orders based on that risk assessment that would require existing coal ash impoundments to comply with the new regulatory program.

Implementation of these provisions would require a significant commitment of Department resources. This new program would apply not just to those areas with coal mining activity, but also to a new universe of materials and sites beyond active and abandoned coal mining sites.

As you know, this would be a very significant expansion of OSM's authority and scope of responsibilities.

Additionally, we believe the ambitious six-month timeframe allowed for publication of a regulatory program would be very difficult to meet. Historically, the development and publication of a proposed rule has required an excess of one year, to allow for public outreach, preparation of supporting documentation, and consultation that may be required with agencies such as the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, and other Federal and state and tribal agencies that may also have statutory and regulatory responsibilities related to these impoundments.

We believe it is important and appropriate to define more clearly the scope of this legislation. Specifically, a more precise definition of covered waste should be considered. Neither SMCRA nor its implementing regulations define the term "other waste," as used in Section 515[b][11] of SMCRA.

If the intent of H.R. 493 is to ensure regulation of all surface impoundment facilities constructed of or containing the products of coal combustion, the term "slag" should be eliminated, because that encompasses a broad range of industrial wastes, not just coal combustion byproducts.

Additionally, defining covered waste in a manner consistent with the definition of coal combustion products and ASTM Standard 2201-02a would ensure the appropriate degree of both inclusivity and exclusivity.

We also believe that the term "impoundment" and its definition as used in this bill may be unnecessarily confusing. In common usage, the term "impoundment" refers only to structures holding liquid or semi-liquid materials.

The current definition of covered waste in the bill also includes materials stored or disposed of in solid form. The bill defines impoundment as any dam or embankment used to retain the covered waste. When these two definitions are read together, the bill could be construed as applying to piles constructed of solid coal combustion byproducts.

The meaning and applicability of the bill would be clearer if it were revised to apply to any pile or impoundment constructed for the purpose of disposal or long-term storage of coal combustion byproducts.

We have other technical comments that we would be pleased to share with the Subcommittee upon request.

Mr. Chairman, we look forward to working with the Subcommittee and staff in providing our technical expertise on impoundment safety and security.

I will be happy to address any questions the Subcommittee might have.

[The prepared statement of Mr. Craynon follows:]

**Statement of John R. Craynon, P.E., Chief, Division of Regulatory Support,
Office of Surface Mining Reclamation and Enforcement**

Mr. Chairman and members of the Committee, thank you for the opportunity to participate in this hearing and discuss the important issues relating to coal ash impoundments and storage areas that are addressed by H.R. 493, the "Coal Ash Reclamation, Environment and Safety Act of 2009."

My name is John Craynon, and I am the Chief of the Division of Regulatory Support at the headquarters of the Office of Surface Mining Reclamation and Enforcement (OSM). I have been at OSM for over 12 years and have spent the past 25 years at the Department of the Interior. I am also a professional engineer, licensed in the Commonwealth of Virginia.

The Department of the Interior and the Administration are currently weighing how best to address this legislation. The Administration has not yet come to a conclusion as we consider different regulatory authorities and approaches for this issue, but will do so in the future. The remainder of my comments today focuses on the technical aspects of the bill and are not intended to provide the official position of the Department of the Interior or the Administration on this legislation.

Impoundment safety was one of the motivating factors for passage of the Surface Mining Control and Reclamation Act of 1977 (SMCRA or the Act) and the creation of the bureau for which I work. The failure of a coal waste impoundment at Buffalo Creek, West Virginia, in 1972, which resulted in a catastrophic loss of life and enormous property damage, provided a significant impetus for legislative action. Impoundment safety is an integral part of the surface mining regulatory program, as it has been from the start. The recent failures of coal ash impoundments at power plants operated by the Tennessee Valley Authority in Tennessee and Alabama have created a similar impetus for action, this time regarding the construction and safety of impoundments at non-mine sites.

H.R. 493 assigns three major responsibilities to the Secretary of the Interior. First, it requires him to establish a regulatory framework for coal ash impoundments, using the provisions of SMCRA related to impoundments and waste piles as a foundation. Second, the bill requires him to conduct an inventory of existing impoundments, including an assessment of the risk they pose to human health and the environment. Third, the bill provides the Secretary with the authority to issue orders, based on the risk assessment in the inventory, that would require existing coal ash impoundments to comply with the new regulatory program.

Implementation of these provisions would require a significant commitment of Department resources. This new program would apply not just to those areas with coal mining activity but also to a new universe of materials and sites beyond active and abandoned coal mine sites. As you know, this would be a very significant expansion of OSM's authority and scope of responsibilities.

Additionally, we believe the ambitious six-month timeframe allowed for publication of a regulatory program would be difficult to meet. Historically, the development and publication of a proposed rule has required in excess of one year, to allow for public outreach, preparation of supporting documentation, and consultation that may be required with agencies such as the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, and other Federal, state, and tribal agencies that may also have statutory and regulatory responsibilities related to these impoundments.

We believe it is appropriate to define more clearly the scope of this legislation. Specifically, a more precise definition of "covered wastes," should be considered. Neither SMCRA nor its implementing regulations define the term "other wastes" as used in Section 515(b)(11) of SMCRA (30 USC 1265(b)(11)). If the intent of H.R. 493 is to ensure regulation of all surface impoundment facilities constructed of or containing the products of coal combustion, the term "slag" should be eliminated because it encompasses a broad range of industrial waste, not just coal combustion byproducts. Additionally, defining "covered wastes" in a manner consistent with the definition of "coal combustion products" in ASTM Standard E 2201-02a would ensure the appropriate degree of both inclusivity and exclusivity.

We also believe that the term "impoundment" and its definition as used in this bill may be unnecessarily confusing. In common usage, the term "impoundment" refers only to structures holding liquid or semi-liquid materials. The current definition of "covered wastes" also includes "materials stored or disposed of in...solid form." The bill defines impoundment as "any dam or embankment used to retain covered wastes." When these two definitions are read together, the bill could be construed as applying to piles constructed of solid coal combustion byproducts. The meaning and applicability of the bill would be clearer if it were revised to apply to any pile or impoundment constructed for the purpose of disposal or long-term storage of coal combustion byproducts. We have other technical comments that we would be pleased to share with the Committee upon request.

Mr. Chairman, we look forward to working with the Committee and staff in providing our technical expertise on impoundment safety and security. I will be happy to address any questions that the Committee may have.

Mr. COSTA. Thank you very much, Mr. Craynon, for your timely remarks.

And our next witness is Mr. Tom FitzGerald. He is the Director of the Kentucky Resources Council. And again, the device is right there in front of you. And once again, please convey to Ms. Gruzesky's family that we wish her the very best and a speedy recovery.

**STATEMENT OF TOM FITZGERALD, DIRECTOR,
KENTUCKY RESOURCES COUNCIL**

Mr. FITZGERALD. Mr. Chairman, Congressman Rahall, Members of the Subcommittee, my name is Tom FitzGerald. I am Director of the Kentucky Resources Council, which is a nonprofit environmental advocacy organization providing legal and technical assistance without charge to low-income individuals, to community groups, and to local governments on a range of environmental issues.

It has been some 20 years since I have been in front of a Congressional Subcommittee, and I appreciate the invitation to be back.

I always preface my testimony with full disclosures, so that you may appropriately discount everything I have to say afterwards. My perspective has been forged with 37 years of advocacy on coal-related issues, four of them as an environmental specialist for Apple Red, which was a legal services program in eastern Kentucky, and the past 25 years as the Director of the Kentucky Resources Council.

I represent folks who live downhill, downwind, and downstream of coal mining operations, of utility plants, and of coal ash impoundments. I have buried one client, who was crushed to death when a poorly engineered, and even more poorly constructed, 192-foot-high coal waste impoundment collapsed and spilled 25 million gallons of slurry into the valley in which he lived.

I am here before you both to express my appreciation to Congressman Rahall for his proposed legislation to address the undermanagement of coal combustion waste in impoundments by utilities, and also to underscore what the Congressman has stated over the years, and most recently in his February 3 letter, in what the environmental community and my clients believe to be the case. It is past time for the U.S. EPA to step up to the plate, and propose and adopt a comprehensive regulatory framework for the management of coal combustion waste, establishing national floors for the characterization, management, disposal, and beneficial reuse of the various waste streams associated with coal combustion.

The H.R. 493 is an important vehicle for opening this dialogue, by assuring that, as an interim matter, no new embankment-type structures for the storage or disposal of coal combustion waste will under-manage those wastes in the way that TVA did at its Kingston plant.

By requiring that all new dam or embankment structures for coal ash, slag, and flue gas desulphurization materials be designed to meet the standards currently applied to coal processing waste structures. And by defining the term "impoundment" intentionally, broadly enough to encompass all embankment-type structures that

retain these wastes, whether in a solid, semi-solid, or liquid form, this bill will help avoid future catastrophes, such as the failure of the TVA structure.

That the State of Tennessee had classified that structure as a landfill rather than an impoundment underscores the need to define both covered waste and impoundments as broadly as this bill does.

H.R. 493 would provide a backstop that would assure that new embankment structures containing coal combustion waste meet engineering design, location, and construction standards, and that existing impoundments be either upgraded or be closed.

I know the sponsor shares my belief that the regulation of these wastes under SMCRA is not the ideal strategy, that it is not a surrogate for a comprehensive regulatory framework managing all aspects of this growing and increasingly problematic waste stream.

I appreciate this February 3 letter underscoring for the new EPA Administrator that it is long past due for EPA to step up and do that.

The savings clause in this bill, at Section 2[g][1], expressly recognizes and protects the ability of other agencies, acting under other Federal laws, to prohibit the construction and operation of these impoundments. And certainly KRC believes that the use of water as a mechanism for conveying the various wastes from the utility plants should be eliminated, and should be replaced by pneumatic and other systems for dry collection, management, and storage and disposal of these wastes. Wet coal ash management is a matter of utility convenience, not necessity.

And as the TVA released, and scores of less catastrophic, but equally problematic, releases have shown, the use of water to transport the ash as slurry from the combustion process comes at a hidden and significant cost that should be internalized and paid by rate-payers, rather than paid by those who are downstream.

Section 2[g][2] also protects the existing state programs that apply more stringent standards. I am very confident—and if Sandy Gruzesky were here, she would tell you—that Kentucky would not have misclassified this impoundment as a landfill.

As Congressman Rahall has noted on several occasions over the years, the hodgepodge, piecemeal regulation of coal combustion waste within and among the states, in this area as well as in disposal and in the black hole that is called beneficial reuse, needs a national framework of minimum acceptable standards to protect the public and the environment.

I have 14 seconds left. Let me just close by suggesting that adopting of a program of uniform comprehensive and appropriate minimum standards is the best way to assure legitimate beneficial reuses of coal combustion waste, or expand it and to eliminate sham reuses.

I have attached two documents for reference, Mr. Chairman. One is my testimony before the National Academy of Sciences on the co-disposal of coal ash at mines. I know you had a separate hearing on that; it is a particularly problematic practice. And the second is my suggested technical amendments to H.R. 493.

And thank you very much for your time. And I cannot believe that I actually got in before my time expired.

[The prepared statement of Mr. FitzGerald follows:]

**Statement of Tom FitzGerald, Kentucky Resources Council, Inc.,
Frankfort, Kentucky**

Mr. Chairman, Congressman Rahall, members of the Subcommittee, my name is Tom FitzGerald. I am Director of the Kentucky Resources Council, Inc., a nonprofit environmental advocacy organization providing legal and technical assistance without charge to low-income individuals, community groups and local governments on a range of environmental issues, from air, waste and water pollution to mineral extraction, and energy and utility policy issues. It has been some twenty years since I have been before a Congressional subcommittee, and I appreciate very much the invitation to be here.

I always preface my testimony with full disclosure, so that you may appropriately discount anything I say afterwards. My perspective has been forged through 37 years of advocacy on coal-related issues, four of them as an environmental specialist for a legal service program representing low-income citizens in the Appalachian coalfields of eastern Kentucky, and the past 25 years as Director of the Council. I represent folks who live downhill, downwind and downstream of both coal mining operations and coal waste impoundments, and who live in the shadow of coal-fired power plants and near sites where coal combustion waste are disposed. I have buried one client who was crushed to death when a poorly-engineered and poorly-constructed 192-foot high coal waste impoundment collapsed and spilled 25 million gallons of slurry into the valley in which she lived.

I am here before you both to express my appreciation to Congressman Rahall for his proposed legislation to address the undermanagement of coal combustion wastes in impoundments by utilities, and also to underscore what the Congressman has stated over the years and what the environmental community and my clients believe to be the case—it is far past time for the U.S. Environmental Protection Agency to propose and adopt a comprehensive regulatory framework for management of coal combustion wastes establishing a national floor of standards for the characterization, management, disposal and beneficial reuse of the various wastestreams associated with coal combustion—fly ash, scrubber sludge, and bottom ash.

The Coal Ash Reclamation, Environment, and Safety Act of 2009 is an important vehicle for opening this dialogue by assuring that, as an interim step, no new embankment-type structures for storage or disposal of coal combustion wastes will undermanage coal combustion wastes in the manner that the TVA did at the Kingston Plant. By requiring that all new dam or embankment structures for coal ash, slag, and flue gas desulfurization materials be designed to meet the requirements currently applicable to coal processing waste structures, and by defining the term “impoundment” broadly enough to encompass all embankment-type structures that retain these wastes whether in a solid, semi-solid, or liquid form, the bill will help avoid future catastrophes such as the failure of the TVA structure. That the TVA structure that failed was classified under Tennessee state regulations as a landfill rather than an a dam or impoundment, underscores the need to define the terms “covered wastes” and “impoundments” as H.R. 493 does, and is one of numerous examples of the undermanagement of coal combustion wastes under the hodgepodge of state regulatory programs that have developed in the vacuum created by the absence of EPA’s leadership. H.R. 493 would provide a backstop that would assure that new embankment structures retaining coal combustion wastes meet engineering, design, construction, and location standards for any new impoundments or landfill units retaining coal combustion wastes that are built above grade.

The bill attempts to address the problem of pre-existing impoundments, requiring that they be inventoried and assessed, and authorizing the Secretary of the Interior to require that they be upgraded or closed depending on the risks posed. I do have several suggested changes to H.R. 493 with respect to pre-existing impoundments, and would suggest that they be handled in a manner similar to other pre-existing facilities regulated under SMCRA—by requiring that the facilities be dewatered and closed unless the owner can demonstrate that the existing structure meets the performance standards applicable to the embankment structure, that it would have to be closed or reconstructed to meet both the performance and design standards.

I know that the sponsor shares my belief that regulation of these wastes under SMCRA is not the ideal strategy, and that it is not a surrogate for a comprehensive regulatory framework managing all aspects of this growing and increasingly problematic waste stream. The savings clause provisions in H.R. 493, Section 2(g)(1), expressly recognizes and protects both the ability of other federal agencies acting under other federal laws to prohibit the construction or operation of impoundments for the storage or disposal of coal combustion wastes, and certainly, KRC believes

that the use of water as a mechanism for conveyance of the various coal combustion wastes should be replaced by pneumatic or other systems for dry collection, management and legitimate reuse or disposal. Wet coal ash management is a matter of utility convenience rather than engineering necessity, and as the TVA release and the scores of less catastrophic releases into soil, surface and groundwater demonstrate, using water to evacuate the ash as slurry from the combustion process comes at a hidden and significant cost that should be internalized and paid by ratepayers rather than in the form of damage to private and public land and water resources.

Section 2(g)(2) also protects existing state programs that impose standards equivalent to or more rigorous than those that would be adopted under H.R. 493. In Kentucky, I am very confident that the TVA structure would have been called what it was—a high hazard potential dam—and would have been regulated and inspected more vigorously than was the case.

As Congressman Rahall has noted on several occasions over the years, the hodgepodge, piecemeal regulation of coal combustion wastes among and within the states must be addressed by the adoption of a comprehensive regulatory framework by the U.S. Environmental Protection Agency. This measure is not inconsistent with that goal, and we can all hope that EPA will move forward expeditiously on this issue. As one of a score or more of states that have established state policies of being “no more stringent than” federal minimum standards, residents in Kentucky have looked in vain to EPA to finish the job they committed to do in 1988 and again in 2000.

Absent federal intervention to establish appropriate regulatory benchmarks for characterization and management of the wastes based on their intended end use or disposal, the competitive forces of the coal and electric utility marketplace will continue to result in a parochial failure of the individual states to effectively control the disposal of CCW. It will also encourage a practice that is of particular concern to me as an advocate assisting coalfield groups across the nation on coal-related issues, which is the indiscriminate blending of fly ash in mine backfill or disposal in active or abandoned mine workings or pits.

What is known concerning the potential toxicity of the leachate from coal combustion ash suggests that a general federal floor of management standards is needed, particularly when considering disposal or use of such wastes in the highly fractured, geologically disturbed and hydrologically transmissive environment of active or abandoned mine workings.

The 1988 EPA determination that coal combustion wastes need not be regulated under RCRA Subpart C as hazardous, was predicated on the assumption that mitigative measures under RCRA Subpart D such as installation of liners, leachate collection systems, and ground-water monitoring systems and corrective action to clean up ground-water contamination, would be employed for protecting public health and the environment. The failure of EPA to require such measures has harmed both. In light of the increasing evidence that the management of CCW as a solid waste has resulted in damage to land and water resources and presents a localized and significant threat to public health, regulation under Subpart C for some coal combustion wastes should be revisited.

The Office of Surface Mining has been developing a regulation that would facilitate co-disposal of coal combustion wastes at mines, but OSM's authority under SMCRA is not sufficient, standing alone, to assure proper management of coal mine co-disposal, and was never intended by Congress to supplant EPA's primary and non-delegable responsibility under RCRA to assure proper management of such wastes. As improvements continue to be achieved in both pre- and post-combustion scrubbing and capture of particulates and metals, we will of necessity change the composition and increase the potential toxicity of the fly ash and leachate, and generate significant volumes of scrubber sludges that need to be managed in order to protect public health and the environment.

In some states, coal combustion wastes are being backhauled and disposed, or “beneficially reused,” in mine workings (including both underground mine voids and more commonly, in surface mine backfills or spoil/mine waste fills) not because of the inherently beneficial or desirable attributes of the wastes relative to other backfill materials, or the lack of alternative locations available to utilities and non-utility customers for coal combustion waste disposal. Rather, such use and disposal is occurring largely because the coal companies offer the backhauling and disposal as a “service” or incentive in order to attract buyers for their coal in an increasingly competitive marketplace, offering the ultimate “out of sight, out of mind” solution to the generation of the coal combustion waste.

The proper management of CCW is essential for protection of human health and the environment. Adequate and comprehensive safeguards will prevent trafficking in environmental contamination by removing the incentive for those more interested

in currying market share and short-term economic gain rather than the long-term public interest to undermanage the wastes. Adoption of a program of uniform, comprehensive and appropriate minimum standards for the characterization and management of coal combustion wastes for reuse and disposal is the best way to improve the legitimate beneficial utilization of CCW, while eliminating sham beneficial reuses.

Mr. Chairman, Congressman Rahall, members of the Subcommittee, that concludes my prepared testimony. I have attached two documents for reference, the first being my testimony to the National Academy of Sciences concerning co-disposal of coal combustion wastes at mines, and the second, my suggested amendments to H.R. 493. I would be happy to answer any questions, and appreciate very much your interest in this important issue, and the opportunity to return to D.C. and to have this conversation.

Suggested Amendments To H.R. 493

On P. 2, Line 13, insert "most stringent" after "with" in order to direct the agency to use the most rigorous standards applicable to permanent impoundments rather than the less stringent standards that apply to temporary impoundments and sedimentation ponds.

On P. 3, Line 6, replace "deposit and maintenance" with "storage and disposal" in order to assure that both temporary impoundments and impoundments used for treatment are covered, as well as disposal facilities. The same change would be made on P. 3 Lines 15-16 and 21.

On P. 3 Lines 24-25 and P. 4, Lines 1-2, remove "basin characterization" and replace it with "assessment of the location, design and construction to assure the safety and stability of the impounding structure and basin".

On P. 3, Lines 12-17, amend the text as follows:

(e) EXISTING IMPOUNDMENTS.—

(1) LIMITATION ON APPLICATION.—Except as provided in an order under this subsection, the design and construction requirements of the regulations promulgated under subsection (a) and subsections (c) and (d) shall not apply to an impoundment for the storage or disposal of other wastes existing prior to the promulgation of the regulations; provided that the impoundment meets all performance standards established under the regulations, and an "as built" certification is provided from a registered professional engineer certifying that the impoundment meets those requirements and is constructed in a manner that is safe and will effectively perform the intended function without failure.

On P. 4, Lines 9-14, replace the current language on Lines 9-14 with the following:

3) ORDERS.—Based on the assessments and the determination of degree of risk under paragraph (2), and notwithstanding the compliance of the owner or operator of the impoundment with performance standards or the "as built" certification required under this Section, the Secretary may issue any order for repair, construction, or closure of the impoundment necessary to ensure that any such impoundment is safe and effectively performs the intended function

[NOTE: The testimony to the National Academy of Sciences concerning co-disposal of coal combustion wastes at mines has been retained in the Committee's official files.]

Mr. COSTA. You did a very good job. And without objection, we will submit both documents for the record. And we look forward to the question-and-answer period.

Next is a gentleman who I had the pleasure to meet before the hearing Mr. Davitt McAteer, whose knowledge and expertise and respect is well known, not just in West Virginia, but throughout his area of expertise. And if the Chairman believes that he comes highly recommended, I believe he comes highly recommended.

Mr. Davitt McAteer, Vice President of Sponsored Programs at Wheeling Jesuit University, you are on.

**STATEMENT OF DAVITT McATEER, VICE PRESIDENT FOR
SPONSORED PROGRAMS, CEO OF THE CENTER FOR EDU-
CATIONAL TECHNOLOGIES AND NATIONAL TECHNOLOGY
TRANSFER CENTER, WHEELING JESUIT UNIVERSITY**

Mr. McATEER. Good morning, Chairman Rahall, Chairman Costa, Ranking Member Lamborn, and distinguished Members of the Subcommittee on Energy and Mineral Resources of the Natural Resources Committee.

As mentioned, I am Davitt McAteer, Vice President of Wheeling Jesuit University. I am here to offer four points.

Coal ash impoundments are not unlike coal waste impoundments in that they are products produced as a result of processing coal. In 1972, as was mentioned, a Buffalo Creek impoundment failed, and 127 persons were killed, and thousands of homes destroyed.

As a result, Federal and West Virginia state agency, the government adopted regulations controlling the design, building, and maintenance of impoundments of coal.

On October 11, 2000, a coal impoundment dam failed through the bottom in Martin County, Kentucky, releasing 300 million gallons of sludge. While no one was killed, the ecosystem was destroyed for nearly 100 miles.

I was the Assistant Secretary for the Mine Safety and Health Administration, one of the agencies responsible for the safety and security of these impoundments, and sadly must admit that we had not been sufficiently proactive in learning from the warning signs of impoundment failures that occurred at Martin County, not unlike the situation we have today at the Kingston, Tennessee facility.

Following that failure, Sen. Byrd and Congressman Hal Rodgers from Kentucky asked the National Academies of Science to study the issue of coal impoundments, and they produced a report, "Coal Waste Impoundment Risks and Responses, As Well As Alternatives," in 2002.

In 2003, with the help of Sen. Byrd, we established a coal impoundment program at Wheeling Jesuit University, with the purpose of addressing surrounding coal impoundments, and also addressing lessons learned in the disaster, including one fundamental conclusion. After Martin County, what we learned was that the people who needed to know the most about these impoundments, those living downstream, knew the least about them.

The lessons learned from those experiences might prove useful to this Committee, as it addresses the questions before it.

I have a series of slides here to show what we have done at the coal impoundment project. We have mapped the impoundment locations across the country; there are roughly 500 such impoundments. And in West Virginia, which requires that emergency evacuation plans are required for impoundments, that can impact families and property.

At high-hazard dams, each—

Mr. COSTA. Excuse me, Mr. McAteer. I just want to make sure Members have the PowerPoint here, because that is a little difficult to see. I believe it is in your handout; and if not, we will make sure we get it to you.

You are on the second page now?

Mr. MCATEER. I am on the second page now.

Mr. COSTA. All right, very good. Thank you. Please proceed. That is on my time. Go ahead. Thank you.

Mr. MCATEER. This mapping consists of identifying the impoundments using GPS satellite imagery so that you can, in fact, identify the impoundment that is above your house, and identify your house and where you are located. Also understand what the emergency evacuation plan, should a problem occur.

Our thinking is to put together a package for individuals who have a Sunday night heavy rainstorm, they are concerned about it, and who should they contact.

Then we conduct field studies as to the public health impact of the impoundment runoff. We analyze the chemical and mineral constitution of the slurry impoundments in spills that occur at impoundments. This is an impoundment that slurry spilled, and we take samples and analyze that.

One of the shortcomings of the coal waste impoundment program is that it does not have the analysis of the materials going into the impoundments, so we are at a loss to know what is in there, and we have to take samples of when we have that impoundment come out.

Then we do a tabletop exercise. And this is where we have emergency management officials come together with company officials from the mine, officials from the state and Federal agencies, as well as citizens; and they study the emergency evacuation plans, and we give them a hypothetical problem.

Then we look at impoundment instrumentation and monitoring. One of the things we found is that the use of impoundments is a rather primitive tool that we simply dump over the hill, in effect. That is not always the case, but generally it is, and we wanted to try to improve the technology as part of the efforts to try to look at new technologies that can give us more information, and can provide us with better protection.

We do biological studies and the impoundment remediation. There are some efforts to do remediation where we can, in fact, take the impounded material, and reduce its presence by using bacteria that eats some of the impoundment. We are looking at that.

We conduct research on instrumentation and monitoring. And the driving philosophy of our program is an attempt to educate and improve safety and health for citizens living near the impoundment, to improve proactive spill prevention by impoundment operators monitoring the instance. We put up instances of failures, instances of spills—and they have the positive effect of involving the mine operator, the impoundment operator, in ensuring that his name doesn't go to the top of the list.

And finally, we apply technologies to current impoundment sites and try to improve their design and maintenance.

The current coal combustion residue, fly ash, should be regulated by strong Federal and state systems which apply comprehensive location design, operations, maintenance and closure procedures.

The disposal of fly ash in dry-disposal facilities should be required because of the human and environmental safety advantages. Research and technologies which encourage beneficial use of CCR also must be increased, and emergency preparedness in the event

of failure should be included to protect the citizens who live down the stream.

CCR is a large and growing problem, not only in this country but throughout the world. The creation of coal combustion waste, if left unanswered, will result in disaster, like in the Kingston failure. The comprehensive approach utilizing OSM, EPA, and then my suggestion, MSHA, might provide the best model for addressing this problem in a timely way.

Mr. Chairman, thank you very much.

[The prepared statement of Mr. McAteer follows:]

**Statement of J. Davitt McAteer, Vice President,
Wheeling Jesuit University**

Good Morning, Chairman Rahall, Chairman Costa, and distinguished Members of the Subcommittee on Energy and Mineral Resources. My name is Davitt McAteer and I wish to thank you for this opportunity to appear before you today. I am the Vice President of Sponsored Programs at Wheeling Jesuit University where I am responsible for research efforts at the National Technology Transfer Center (NTTC) and Center for Educational Technologies (CET).

On December 22, 2008, a Coal Ash Impoundment operated by the Tennessee Valley Authority ruptured and sent a billion gallons of sludge across 300 acres of Eastern Tennessee (New York Times, January 6, 2009). This facility is one of more than 600 Coal Combustion Waste sites across the United States. Of that number, it is estimated that 300 are impoundments and 300 are landfills used by 440 coal-fired utilities. (EPA Estimate / Notice of Data Availability on the Disposal of Coal Combustion Wastes in Landfills and Surface Impoundments, Docket # EPA-HQ-RCRA-2006-0796-0015).

Currently approximately 129 million tons of coal combustion residues are produced annually and this number is expected to increase dramatically in the coming years. (Annual Energy Outlook, 2007 Energy Information Administration and Department of Energy Report No. 0383/2007). Besides the safety considerations surrounding the methods of disposal, health concerns also exist. Since 1999, the EPA has issued a number of reports warning about substantial risk to human health and to the environment from poorly managed coal ash disposal facilities. (U.S. EPA (Environmental Protection Agency). 2007. Coal Combustion Waste Damage Case Assessments. (Available from the docket to the Notice of Data Availability on the Disposal of Coal Combustion Wastes in Landfills and Surface Impoundments, Docket # EPA-HQ-RCRA-2006-0796-0015).

I first would like to commend this Committee and Chairman Rahall for their leadership in acting swiftly to address this growing problem.

Coal ash is presently disposed of in wet or dry impoundments or piles. These impoundments are not unlike coal impoundments which are facilities built of coal waste produced at mines during the cleaning and preparation of the coal before burning. These "coal impoundments" typically consist of rock, coal fines, clay and other impurities which are placed across a valley creating an impoundment. These impoundments provide a permanent storage place for the waste materials and equally, if not more important to the coal operator, a ready supply of cheap water which the mine uses to clean the newly produced coal. Tragically, one of these impoundments collapsed in 1972 in Buffalo Creek, West Virginia, killing 127 people and destroying hundreds of homes and structures. Following that disaster, the Federal government and the state of West Virginia adopted new regulations governing the construction, design and management for such impoundments. More recently on October 11, 2000 in Martin County, Kentucky an impoundment operated by the Massey Energy Company failed through the impoundment bottom. The slurry then broke through two underground mine seals discharging approximately 300 million gallons of coal slurry and water sludge into the creeks and rivers of West Virginia and Kentucky. Following the disaster, at the request of Senator Robert C. Byrd and Congressman Nick J. Rahall, II, the National Academy of Sciences, National Research Council, undertook a study of coal waste impoundments. Their report was released in 2002. Coal Waste Impoundments: Risks, Responses, and Alternatives; Committee on Coal Waste Impoundments, Committee on Earth Resources, Board on Earth Sciences and Resources, National Research Council, 244 pages, 2002. While no one was killed, EPA called the collapse the largest environmental disaster in the south eastern portion of the United States. That is until the release of the TVA Kingston, Tennessee facility on December 22, 2008.

Coal waste impoundments have caused concern and fear among coal field residents for a number of years, at least since Buffalo Creek. The failure at Martin County led to renewed concerns. In order to address the issues surrounding coal impoundments, in June, 2003, with the help of Senator Robert C. Byrd, we established the Coal Impoundment Project at Wheeling Jesuit University's National Technology Transfer Center and Center for Educational Technologies (www.coalimpoundment.org).

The Coal Impoundment Project grew out of the knowledge gained from the Martin County failure, that the people who need to know the most about the impoundments—those living downstream—knew the least about them. Moreover, the project is an effort to address several issues relating to coal waste disposal, including providing information to citizens about impoundments improving safety precautions and conducting research to improve impoundment safety and security.

These investigations have included testing filtration materials, testing automatic wireless instrumentation for monitoring the dam conditions, and the use of robots for remote underground mine mapping under impoundments. Current research includes investigating hand-held computers with Global Positioning Systems, cameras, and audio recording to assist field inspectors with recording information and the ability to automatically upload information to a centralized electronic record center. This technology could improve impoundment inspections, management of the site, engineering oversight, regulatory compliance, and safer conditions for workers and nearby communities.

The project also includes efforts to research new technologies to reduce the amount of impounded materials and to reduce the need for the use of this method of disposal by researching beneficial uses for the material.

The December, 2008 TVA ash impoundment failure thus has a certain ring of history repeating itself and perhaps we can learn from the coal impoundment experience.

The guiding philosophy of the Wheeling Jesuit University Coal Impoundment Program is that better information shared in a coordinated way will help reduce anxiety among coal impoundment neighbors and timely information about incidents/leaks will help responsible parties to react in a more expeditious fashion to minimize risks and improve spill prevention.

One important aspect of the program is the identification of coal impoundments, mapping their locations and making emergency evacuation plans, which are required in West Virginia, publically available. Thru a series of public meetings, citizens in the coalfields have been alerted to the locations of nearby impoundments and several communities have begun to work with local officials to improve notification in case of an emergency, for example, using reverse 911, and to improve the emergency evacuation plans.

In addition, we have initiated table top exercises and information exchanges with state and federal agencies, county emergency management personnel and coal company officials which have improved preparedness and emergency planning.

It seems clear from the Tennessee incident and a second event in Alabama on January 9, 2009, the failure of voluntary industry efforts and inadequate state by state regulatory efforts that coal ash disposal facilities need strong federal regulations. Furthermore, that regulating scheme needs to be multifaceted given the nature of the problem.

As the 2006 National Research Council of the National Academy of Sciences, Managing Coal Combustion Residues in Mines report concludes, a strong regulatory approach involving both the Department of the Interior Office of Surface Mining (OSM) and the Environmental Protection Agency (EPA) would seem to be the most logical approach given the multiple risks created by the different methods of coal ash waste disposal. OSM under Surface Mine Control & Reclamation Act, 30 USC § 1201 et seq., (SMCRA) has the regulatory framework in place to deal with the coal combustion residue placed in mine sites, and EPA, as it had planned to do in 2000, should promulgate regulations covering CCR disposal in landfills under the Resource Conservation and Recovery Act (RCRA)(65 CRF § 32214). I would add that involving MSHA in plan application approval and inspector training discussed below could expedite the program. While joint regulatory schemes commonly suffer from a lack of clear jurisdiction, given the nature of this problem such a joint approach seems best suited to quickly address this problem (The NRC Committee also noted that a number of public interest groups had expressed concern that OSM and other SMCRA related agencies lacked the will or ability to deal effectively with this issue; perhaps the joint approach would improve the confidence of the public).

It also should be noted that coal ash impoundments are more like coal impoundments than standard dams, and require different engineering and monitoring approaches. Inspection methods, training, and record keeping techniques need to be

specific for these unique facilities. This conclusion is the result of analyzing MSHA's experience with coal impoundments. While standard dams once built are typically static facilities with few variables, coal impoundments and Coal Combustion Residue impoundments are dynamic facilities which have more variables as they are constantly changing, receiving additional materials, etc. Thus, the CCR disposed of at mine sites and impoundments should draw upon MSHA's experience. (See Appendix A, MSHA Impoundment Data Form)

These facilities require frequent monitoring and inspections by the responsible owner and/or operator as well as federal and state agency inspectors. For example, currently, under the Federal Mine Safety & Health Act of 1977, 30 USC §813 et seq. coal impoundments are inspected quarterly by MSHA inspectors and every seven days by company personnel trained by MSHA. Inspection reports are required to be kept and filed with MSHA.

Coal Impoundment incidents, failures, and spills are also required to be reported and investigated, and a protocol is in place to be followed if a serious incident is observed, involving higher up company and government officials—a procedure, which it is reported, did not exist at the Kingston, Tennessee, December 22, 2008 failure site. These reported incidents are also included in the WJU website (<http://www.coalimpoundment.org>). Such reporting has resulted in owners and operators being proactive in preventing and avoiding incidents, as well as keeping the public informed about the number and severity of those incidents should any occur.

One aspect of the West Virginia regulatory program—the creation by impoundment operators of Emergency Action Plans is an area where the proposed H.R. 493 could be strengthened. These plans are required when impoundments have the potential for negatively impacting people and homes and are ranked as “High Hazard Dams.”

One area which MSHA Coal Impoundment Regulations do not adequately cover but which should be of concern for coal combustion residue facilities is the monitoring of chemicals and heavy metals that go into and come out of the facilities. The collection of impurities and harmful materials during the burning of coal to avoid releasing them into the atmosphere produces the fly ash and bottom ash waste products which may have a high concentration of those impurities. Given the nature of the waste it is only logical that monitoring the make up of the material being placed in the facilities as well as monitoring any discharge from the facility through leaching, drainage and/or runoff is essential to protecting human health and the environment. In our experience, this lack of knowledge as to the makeup of coal impounded material—what is in the impoundment—has been recognized as a drawback in the ability of the owner and operator as well as the federal or state agencies to adequately treat runoff or drainage products.

The use of “mine sites” as disposal facilities for CCR raises additional potential concerns as well as additional potential benefits in assessing options the disposal sites. As the National Research Council concluded in its Managing Coal Combustion Residue in Mines (NAS 2006) report, putting CCR's in coal mines as part of the reclamation process is a viable management option as long as (1) CCR placement is properly planned and is carried out in a manner that avoids significant adverse environmental and health impacts and (2) the regulatory process for issuing permits includes clear provisions for public involvement (p. 1, Summary 2006).

Mining operations frequently disrupt the rock formation below the coal seam allowing ground water pollution from CCR deposited on mine sites easier access to ground water aquifers. Also underground mine site locations are frequently below the water table where leachates can contaminate the water table.

In our studies of runoff at coal impoundments, we have encountered water contamination that appears to be connected to the coal impoundment leaching, drainage and runoff. The National Academy of Sciences expressed just such a concern in their 2006 study. According to NAS, “A review of 24 proven CCR landfill damage cases reveals one commonality among the incidents: when CCRs react with water and the resulting leachate is not contained, adverse consequences can result....In some landfill settings, groundwater has been degraded to the point that drinking water standards were exceeded off-site. In other landfills and surface impoundments, contamination of surface waters has resulted in considerable environmental impacts....The committee concluded that the presence of high levels of some contaminants in CCR leachates may create human health and ecological concerns at or near some mine sites over the long term,” indicating the need for long term monitoring of ground and surface waters at such sites.

Further, a draft EPA report measuring the health risks posed by disposal practices at coal ash dumps finds that pollution from these sites significantly increases both cancer and noncancer health risks and degrades water quality in groundwater supplies. (RTI (Research Triangle Park) 2007. Human and Ecological Risk Assess-

ment of Coal Combustion Wastes, Draft Prepared for: U.S. Environmental Protection Agency, Office of Solid Waste.

Other concerns exist about the long term impact of mine site disposal and storage. West Virginia's Department of Environmental Protection director, Randy Huffman testified as recently as Tuesday, February 10, 2009, that WV DEP remains concerned about the negative impact on water supplies from injecting coal mine slurry into underground mines and wells (Charleston Gazette, February 11, 2009).

Analysis of the recent fly ash dam failure in Tennessee resulted in contamination of waterways with arsenic and radium. A Duke University report concluded "exposure to radium and arsenic containing particles in the ash could have severe health implications in the affected area." (Duke University press release, January 30, 2009). And although the report found only trace elements beyond the damned tributary, all studies support the conclusion that special care must be taken in the design management and operation of fly ash facilities to ensure environmental and human safety and health protections at CCR facilities.

In the 36 years since Buffalo Creek, MSHA has gained much knowledge and experience in what is good design and management for coal impoundments and this knowledge should serve as a tool for future CCR sites. Moreover, a best practices approach to operation management of CCR's should be part of the approaches considered here. The Coal Impoundment Project has developed a pilot best practices program and recommends the implementation of a tailings management framework consisting of Operation, Maintenance, and Surveillance programs for the integration of environmental and safety considerations into each stage of the life cycle of a tailings facility, from initial site selection and design, through construction and operation, to eventual decommissioning and closure. The future of coal ash facilities should include the integration of environmental and safety considerations in a consistent way for the continuous improvement of the facilities.

Applicants for CCR sites should not only examine the characteristics of the location to be used but also the chemical and physical properties of the materials to be deposited. Facility management must include the studies of short term and long term impact such facilities have on the ecosystem as well as any adverse human impact and should include regular and thorough monitoring of the ground and surface waters around, below and downstream of the disposal site.

In addition, as is the case with Coal Impoundment sites, the federal regulations must ensure that the owner/operator must be sufficiently financially sound to be able to abate adverse effects to humans and the environment should such harmful impacts occur. Currently, performance bonds are required of coal impoundment owners/operators, and it is reasonable that bonds should be required for fly ash disposal sites as well. And as is the case under other environmental regulations, the handling and storage of coal combustion waste should remain the responsibilities of the generator unless the product is sold for beneficial use.

Currently, MSHA and OSM jointly coordinate and approve Coal Impoundment plans and applications. One suggestion for this Committee is that MSHA be authorized to assist in CCR impoundment plan approvals and that MSHA training be provided for OSM and EPA CCR impoundment inspections.

An additional point raised by the EPA and others is the use of wet versus dry facilities. That same debate exists with regard to coal refuse impoundments. Clearly, the dry disposal methods have significant safety and environmental advantages, although typically more costly to operate than wet disposal. This Committee should consider a phased in approach limiting and/or restricting the wet disposal method in favor of the dry technique, ultimately dry storage is the preferred method in most situations.

Furthermore, we must continue to apply new technologies to reduce the amount of CCR created. Recently, professors at Virginia Polytechnic Institute and State University (Virginia Tech) reported that progress continues to be made in developing an economically viable technology to remove water from even the ultrafine coal slurries. (Virginia Tech News Release, February 9, 2009). Technologies such as these should be applied to the disposal of coal ash and thus help reduce the amount of ash residue created.

Where permitted, future ash lagoons should be developed so as to provide secure containment while allowing the ash to eventually dry and solidify. Such facilities should include the use of composite liners which have a number of advantages and are required for industrial waste facilities and adequate monitoring of ground and surface waters to assure success of the liners, or to avoid accidental harm due to unanticipated breaches of the liner system.

In conducting our research we also examined regulations of CCR's in other countries, the European Union (EU) recently required a registry for fly ash products placed on the market as construction material. On June 1, 2007, the REACH-Regu-

lation (Registration, Authorization, Evaluation and Restriction of Chemicals) of the European Union required that each producer or importer of coal combustion products (CCPs) which were to be placed in the market as construction materials have to pre-register and register their substances. The pre-registration requires information on the substance identity, the tonnages and the name and address of the producer. The registration requires comprehensive information about toxicology and ecotoxicology of the substances. Among other benefits to industrial repurposing of fly ash, this registry provides important information for the protection of human health and drinking water when deciding how and where fly ash can be used beneficially. (Feuerborn, J. 2008. EU and CCP: Coal Combustion Products and REACH. ECOBA (European Coal Combustion Products Association), 2008. <http://www.ecoba.com/news/document.html?id=274>)

In closing, I believe the creation of this enormous amount of material (CCR) for which no beneficial uses have been found is a problem which must be addressed. Beneficial and safe uses of CCR in drywall, concrete, road building, construction fill and other areas should be encouraged and additional safe uses should be developed.

Electricity from coal is a necessary fact of our lives today. Combustion is the means of converting coal to electricity and ash resulting from that combustion is important in preventing impurities and hazardous materials from entering the atmosphere. In effect, in solving one problem, we have created another for which we need to find a better safer and healthier method of disposal. This bill and this Committee's efforts are major steps in the right direction.

The need to solve this problem has been recognized by the National Academy of Sciences National Research Council and the Environmental Protection Agency. The result of the recent failures in Tennessee and Alabama along with the EPA and NAS NRC studies and our experiences with coal impoundments, have made us aware of the negative consequences of failing to act.

Mr. Chairman, Members of the Subcommittee, a comprehensive federal program under EPA & OSM's joint jurisdiction with assistance from MSHA appears to be the most logical approach and most effective in addressing the risks and concerns of coal combustion waste disposal.

Finally, on behalf of Wheeling Jesuit University our Coal Impoundment Project group and myself, I would like to thank the Subcommittee for the opportunity to address this problem which, because of its size alone presents difficult financial and logistic hurdles, but also because of the combined human and environmental concerns present large health, safety and environmental issues. Thank you also, Chairman, for the opportunity to present to you and the Subcommittee, information about this important issue.

[NOTE: Attachments have been retained in the Committee's official files.]

Mr. COSTA. Thank you, Mr. McAteer. We appreciate that.

As we proceed to our last witness, certainly last but not least, I would first like to ask unanimous consent that Ms. Gruzesky's written statement be included into the hearing record today. And she is here in spirit.

Hearing no objection, we will have her statement entered into the record.

[The statement submitted for the record by Ms. Gruzesky follows:]

ENERGY AND ENVIRONMENT CABINET
Department for Environmental Protection
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February 10, 2009

U.S. Representative Jim Costa, Chairman
 Subcommittee on Energy and Mineral Resources
 1324 Longworth House Office Building
 Washington, DC 20515-0520

Re: Hearing on H.R. 493, the Coal Ash Reclamation, Environment, and Safety Act of 2009

Dear Chairman Costa,

Thank you for this opportunity for the Commonwealth of Kentucky to share its experience and perspective regarding the regulation of coal ash impoundments. As you know, Kentucky is a coal mining state that relies heavily on coal-fired power plants for its energy production. A 2006 study by the U.S. Department of Energy and U.S. Environmental Protection Agency states that Kentucky leads the nation in coal ash production, producing approximately 14.5 million tons in 2004. Nationally, and in Kentucky, approximately 70 percent of the material is handled as a dry waste while the remainder is handled in a wet form. Safe and effective management of this material must remain a priority in order to protect the Commonwealth's natural resources and the health and safety of its citizens.

Kentucky has statutes and regulations that were developed to protect the environment, and public safety and health from potential threats associated with the management and disposal of coal combustion waste. The regulatory requirements are implemented by Kentucky's Department for Environmental Protection, which is part of the Energy and Environment Cabinet. Within the Department for Environmental Protection, the Division of Waste Management is responsible for regulating the ultimate disposal in a landfill, or beneficial reuse of coal ash material, while the Division of Water is responsible for regulating the design, construction and inspection of coal ash impoundment dams, as well as the discharge of pollutants to surface water or ground water. Some of the risks associated with coal ash management and disposal are catastrophic in nature, as in the case of a dam failure, while other risks are more chronic in nature, such as the potential impact to human health and the environment from exposure of toxic pollutants originating in the material. I understand that the interest of the Subcommittee on Energy and Mineral Resources is the potential catastrophic risks of a structural failure of an impoundment, therefore my comments will focus on these aspects of Kentucky's regulations.

Since approximately 1975, Kentucky has regulated ash ponds that have an embankment in the same manner as we regulate any dam. The Division of Water implements a dam safety program, and we have many years of experience permitting and inspecting these structures. As director of the Division of Water, the Dam Safety Program is under my supervision. There are 967 active dams in Kentucky that the Division inspects. This inventory does not include coal slurry impoundments, which are subject to the Surface Mining Control and Reclamation Act (SMCRA) and are regulated by Kentucky's Department for Natural Resources, also within the Energy and Environment Cabinet.

A dam is defined by KRS 151 as any structure that is 25 feet in height, measured from the downstream toe to the crest of the dam, or has a maximum impounding capacity of 50 acre-feet or more at the top of the structure. Structures that fail to meet these criteria, but that have the potential to cause significant property damage or pose a threat to life in the downstream area are regulated in the same manner as dams. Of the 967 dams within the division's inventory, 18 are coal ash impoundments and 11 of those are identified as high-hazard or moderate-hazard dams. The hazard classification is based on potential impacts if the dam were to fail according to the following definitions:

High Hazard structures are located such that failure may cause loss of life or serious damage to houses, industrial or commercial buildings, important public utilities, main highways or major railroads.

Moderate Hazard structures are located such that failure may cause significant damage to property and project operation, but loss of human life is not envisioned or poses a threat to relatively important public utilities

Low Hazard structures are located such that failure would cause loss of the structure itself but little or no additional damage to other property.

High- and moderate-hazard dams are inspected every two years. Low-hazard dams are inspected every five years. Inspectors search for signs of distress on the structure such as cracks, slides, or seepage. They also look for trees, woody vegetation and animal burrows. Inspectors check the spillways to ensure that they are neither clogged nor showing signs of deterioration. If the structure meets all the necessary requirements as outlined in KRS 151.293 and KRS 151.295 (Attachments 1 and 2), a Certificate of Inspection is issued to the owner. Otherwise, the owner is notified of any deficiencies. All of the coal ash impoundments in Kentucky are operated and maintained according to standards and have good compliance histories.

The review of designs and permitting of dams and hazardous impoundments is required as set forth in KRS 151.100 and 401 KAR 4:030 (Attachments 3 and 4) and Design Criteria for Dams—Engineering Memorandum #5 available at <http://>

www.water.ky.gov/NR/rdonlyres/EA39D4C4-9645-4D73-B90D-7AFC20DA86FD/0/WRMEMO_5.doc. All such structures except federal dams and coal slurry impoundments (which are permitted through Department for Natural Resources) must be reviewed, and a construction permit issued by the Division of Water. Design criteria, hazard classification information and submittal requirements can be found in this publication.

After the construction permit is issued, the division performs inspections during critical stages of the work. Upon completion of construction, the owner submits a notice of completion along with as-built drawings. When as-built drawings are received, a final inspection is conducted. If all work is satisfactory, the owner is granted permission to impound water and the completed dam is placed on the inventory of dams maintained by the division. In the case of coal ash impoundments, it is important to note that the waste is not disposed of within the impoundment, rather the material settles in the impoundment, then is removed for beneficial reuse or disposal in a landfill. If the material is disposed of in the impoundment, then it must be closed as a landfill, which requires an engineered cap and groundwater monitoring.

Currently there is not a national criterion for dam safety, therefore there are significant variations in programs from state to state. Dam safety is an inter-jurisdictional concern, therefore consistency in standards across jurisdictions is appropriate. Recently the National Committee on Levee Safety proposed a national levee safety program with consistent standards and requirement for levees nationwide. The committee's draft report is currently under review by the Office of Management and Budget and is available at http://www.iwr.usace.army.mil/ncls/docs/NCLS-Recommendation-Report_012009_DRAFT.pdf. The draft Recommendations for a National Levee Safety Program may provide additional insights for your consideration.

The December spill at the Tennessee Valley Authority's Kingston Plant in Harman, Tennessee has brought into sharper focus concerns regarding an aspect of dam safety that Kentucky currently does not regulate, that being the development of emergency action plans (EAPs) for dam failures. In October, 2000 Kentucky experienced its own disastrous spill, a coal slurry impoundment operated by Martin County Coal Company released 300 million gallons of coal slurry waste into subsurface mine shafts, which then inundated local streams, destroying property, impacting water supplies, and smothering aquatic organisms. It resulted in a massive cleanup and extensive stream restoration work. Although the spill was not a result of a dam failure, this catastrophic release demonstrated the need for the development of EAPs that identify risks and guide emergency response in the case of a dam failure.

Currently, and for the third consecutive year, there is proposed legislation before the Kentucky General Assembly that would mandate the development of emergency action plans (EAPs) for high hazard potential impoundments (Attachment 5). The legislation, if passed, will require the Energy and Environment Cabinet to develop regulations requiring the development, submission for approval, and implementation of EAPs for high hazard potential impoundments. The plans will be based on guidance published by the Federal Emergency Management Agency (FEMA) and take into account the characteristics of the impounded material in establishing requirements for breach analysis and inundation mapping.

The Energy and Environment Cabinet met in January 2009 with the Utilities Information Exchange of Kentucky, an association that represents the coal-fired power generation industry, to discuss EAPs and other regulatory approaches under evaluation for managing coal combustion waste. The industry representatives indicated that they are preparing for regulations regarding EAP development, and recognize the potential development of other regulations regarding the chronic risks associated with managing coal combustion waste. They stated the importance of maintaining the ability to beneficially reuse the material and they expressed their desire to work with the Division of Waste Management and the Division of Water on any new regulations that may be implemented.

Kentucky's challenge now is to evaluate our current regulatory programs and identify areas of weakness with respect to managing the variety of risks associated with coal combustion waste, whether that risk be contamination of waters of the Commonwealth, human exposure, or catastrophic failure. There are a variety of factors that must be considered when a coal fired power plant is deciding to manage its coal combustion waste as a wet or dry material, including site limitations, as well as environmental and public safety concerns. Another challenge facing Kentucky is to evaluate its regulatory programs to ensure that there are no impediments to choosing the approach that is in the best interest of protecting human health and the environment.

Please do not hesitate to contact me if I can be of further assistance. I can be reached at (502) 564-3410 or at sandy.gruzesky@ky.gov.

Sincerely,

Sandra Gruzesky, P.E., Director
Division of Water

[NOTE: Attachments have been retained in the Committee's official files.]

Mr. COSTA. And we will now hear from Mr. Nick Akins, the Executive Vice President for Generation, the American Electric Power Service Corporation, to comment on this important piece of legislation, H.R. 493.

**STATEMENT OF NICK AKINS, EXECUTIVE VICE PRESIDENT
FOR GENERATION, AMERICAN ELECTRIC POWER SERVICE
CORPORATION**

Mr. AKINS. Thank you, and good morning, Chairman Rahall and Chairman Costa, and the remaining Members of the Subcommittee.

My name is Nick Akins; I am the Executive Vice President for Generation for American Electric Power. I would like to thank the Subcommittee for the opportunity to present this statement on behalf of AEP, the Edison Electric Institute, and the Utility Solid Waste Activities Group on the Coal Ash Reclamation, Environment, and Safety Act of 2009, and the issue of safe management of coal ash at impoundments operated by the electric utility industry.

The electric utility industry remains committed to ensuring the integrity and safe operation of the dams and impoundments in which we manage coal combustion byproducts, including coal ash.

Utilities have safely managed hundreds of coal ash dams and water impoundments for decades. However, there have been times when we experienced failures. One happened in December at TVA's Kingston plant. More than 40 years earlier, in 1967, another serious breach occurred at AEP's Clinch River plant in Virginia.

When these instances occur, they should be scrutinized. And they should become a catalyst to bring about improvement in how we manage our facilities, and to ensure safe operation going forward. That is what AEP did after the 1967 incident, and that is what we believe the intent of H.R. 493 is today.

The utility industry is taking the ash bill at TVA's Kingston power plant very seriously. In the wake of the spill, utility companies reexamined their dam safety and inspection activities, and many companies, AEP included, were taking immediate steps to ensure that safety inspections were up to date.

The number of state regulatory agencies also conducted additional inspections of utility impoundments to assess their structural soundness. We welcome that additional level of scrutiny to provide assurance that our facilities are being safely operated, and AEP is taking a leadership role in the industry to develop a set of best practices for the safe management and disposal of coal combustion byproducts.

In the wake of the TVA event, we support the intent of H.R. 493 improving dam safety. Many states regulate CCB surface impoundments, and many utilities have their own monitoring programs. But having some level of Federal oversight or standards to provide consistency across the country has merit. Developing the

appropriate Federal programs should begin with determining how things operate today, including inventorying existing impoundments and regulations and also determining what is working and where there are gaps in existing state programs.

We understand the U.S. EPA is beginning the inventory process, and we respectfully suggest that the committee coordinate its actions with the efforts and findings of that agency.

It also is imperative that any Federal program not produce overlapping or duplicative regulations. For example, although the Office of Surface Mining has an expertise regarding dam safety involving coal or mining waste of coal mines, OSM may not be best suited for addressing management standards for coal ash, which is generated and managed by an entirely different industry.

And while H.R. 493 provides that states that have SMCRA authority can apply for authority to regulate coal ash impoundments under a Federal program, many states with developed regulations for coal ash impoundments do not have SMCRA authority.

These state regulations maybe worked effectively, but as the bill is currently structured it appears to provide a potentially duplicative Federal program overlay, creating dual and possibly competing regulations.

I would like to thank the Subcommittee for the opportunity to present the views of AEP, EEI, and USWAG on this issue. We are all committed to operating our facilities safely, and we would welcome the opportunity to work further with the Subcommittee on the development on a Federal approach, to ensure that CCB impoundment safety is managed in an efficient and effective way.

I would be happy to answer any questions you have concerning my testimony. Thank you.

[The prepared statement of Mr. Akins follows:]

Statement of N. K. (Nick) Akins, for American Electric Power, The Edison Electric Institute and the Utility Solid Waste Activities Group

Good morning. My name is Nick Akins. I am the Executive Vice President—Generation for American Electric Power (“AEP”). I would like to thank the Subcommittee for the opportunity to present this statement on behalf of AEP, the Edison Electric Institute (“EEI”) and the Utility Solid Waste Activities Group (“USWAG”) on the “Coal Ash Reclamation, Environment, and Safety Act of 2009” and the issue of the safe management of coal ash at impoundments operated by the electric utility industry.¹

Utility Commitment to Dam Safety

The electric utility industry remains committed to ensuring the integrity and safe operations of dams and impoundments in which we manage coal combustion byproducts (CCBs), including coal ash. Utilities have safely managed hundreds of coal ash dams and water impoundments for decades. However, the incident that occurred at TVA is unacceptable, and therefore we agree with the objective of H.R. 493 to put in place appropriate federal mechanisms that will help ensure that coal ash dams continue to be managed safely going forward.

The utility industry is taking the ash spill at TVA’s Kingston Power Plant very seriously. In the wake of the spill, utility companies re-examined their dam safety

¹ EEI is an association of U.S. shareholder-owned electric companies, international affiliates, and industry associates worldwide. EEI’s U.S. members serve roughly 90 percent of the ultimate customers in the shareholder-owned segment of the industry and nearly 70 percent of all electric utility ultimate customers in the nation, and generate nearly 70 percent of the electricity produced in the United States. USWAG is a consortium of EEI, the National Rural Electric Cooperative Association (“NRECA”), and over 100 electric utility operating companies located throughout the country. NRECA is the national association of rural electric cooperatives, many of which are small businesses. Together, USWAG members represent more than 85 percent of the total electric generating capacity of the United States and service.

and inspection activities. Many companies, AEP included, are taking immediate steps to ensure that safety inspections are up to date. A number of State regulatory agencies, including those in Arizona, Minnesota, Ohio, Pennsylvania, and West Virginia, are also conducting additional inspections of utility impoundments to assess their structural soundness. We welcome this additional level of scrutiny to provide assurance that our facilities are being operated in a safe manner.

It is important to note that many State regulations already require detailed permitting, design, inspection and maintenance requirements for CCB surface impoundments under their respective dam safety and environmental regulations. In addition to State dam safety regulations, many utilities adhere to their own guidelines for the routine inspection, monitoring and maintenance of CCB impoundments consistent with federal dam safety guidelines. Utilities also implement measures to ensure the structural integrity of CCB surface impoundments, including ensuring that:

- surface impoundments are designed, constructed and maintained in accordance with prudent engineering practices;
- surface impoundments are regularly inspected for changes in appearance or structural weaknesses; and
- if a structural weakness is identified, steps are taken to eliminate the condition or structural weakness.

These measures serve to ensure that CCB impoundments are operated to safely manage CCBs. AEP's Dam Safety Inspection and Monitoring Program serves as one example of the industry's CCB impoundment operations. AEP has operated coal ash impoundments for decades and currently owns and operates 40 earthen dam impoundments used to store cooling water, fly ash and bottom ash at its power plants. This total includes:

- Eleven large fly ash and bottom ash impoundments located in Ohio, West Virginia, Kentucky and Indiana;
- Six large water storage impoundments located in Texas, Oklahoma, Arkansas and Louisiana; and
- Several smaller ash storage impoundments located throughout our service territory.

AEP's Safety Inspection and Monitoring Program is based on federal dam safety guidelines and applicable state dam safety regulations and includes the following key components:

- AEP's large dams are inspected annually by engineering staff under the direction of a professional engineer. The large dams are also inspected more frequently by plant staff.
- Many of AEP's smaller facilities are inspected routinely by plant staff and every two to three years by engineering staff.
- The large dams at several plants are equipped with instrumentation (for example, piezometers, surface survey monuments and slope indicators) to monitor the dam's structural conditions. Monitoring data for the instrumented dams are collected at least annually and a report outlining the condition and inspection results and recommendations is provided to the plant for implementation.

Design modifications and expansions to existing dams are performed by professional engineers and reviewed by an independent professional engineer. In addition, the designs are reviewed and approved by the appropriate state regulatory dam safety officials.

Utility Industry View of H.R. 493—Need for Federal/State Coordination

In light of the measures that AEP and others in the industry are taking to ensure the safety and integrity of CCB impoundments, we agree with the objective of H.R. 493—ensuring dam safety. Because different state approaches exist for regulating dam safety, the principle of having some level of federal oversight or standards to provide consistency across the country has merit. We also support the concept of inventorying the existing universe of CCB impoundments. In order to develop an effective federal response to impoundment safety, it makes sense to first characterize the universe of covered facilities and assess their integrity. In fact, we understand that U.S. EPA already is beginning the process of inventorying and assessing the structural integrity of coal ash surface impoundments across the country.

Another important step in developing a federal response to CCB impoundment safety is understanding the extent and effectiveness of existing state regulatory programs. As explained above, many states, including those in which AEP operates, already have dam safety programs. Better understanding the scope and effectiveness of existing state programs will allow decision makers to determine what is working at the state level, identify gaps in state regulations and decide how existing

programs can be improved. When gaps are found, we need to develop an effective federal response to fill those gaps.

In short, the first step in considering a new federal dam safety program for CCB impoundments should be to determine the scope of the problem and then to coordinate any federal action with existing federal guidelines and state regulations. As I mentioned earlier, we understand that U.S. EPA already is inventorying and assessing the safety of CCB impoundments. We respectfully suggest that the Committee coordinate its actions with the efforts and findings of that agency.

Absent this type of coordination, we are concerned about the potential of duplicative and overlapping regulation of CCB impoundments. For example, although the Office of Surface Mining, ("OSM") has expertise regarding dam safety involving coal or mining wastes at coal mines, OSM may not be best suited for addressing management standards for coal ash, which is generated and managed by an entirely different industry—the electric utility industry. We respectfully suggest that the Committee first consider which regulatory body is most appropriate for developing federal regulations concerning the integrity of coal ash impoundments.

Further, as I stated previously, there are existing state regulations addressing coal ash impoundments, and it is imperative that any federal program not produce overlapping or duplicative regulations. We need an effective, but coordinated approach. For example, while H.R. 493 provides that states having Surface Mining Control and Reclamation Act (SMCRA) authority can apply for authority to regulate coal ash impoundments under a federal program, many states that have already developed regulations for coal ash impoundments do not have SMCRA authority. These state regulations may be working effectively, but as the bill is currently structured, H.R. 493 appears to contemplate a potentially duplicative federal program overlay creating dual and possibly competing regulations.

Beneficial Use of CCBs

While we focus on ensuring dam safety, our industry also remains committed to continuing and expanding the array of beneficial uses of CCBs, including, among others, as raw material in Portland cement, for mine reclamation, as replacement for cement in concrete and grout, as mineral filler in asphaltic concrete, as aggregate for highway subgrades and road base material, and as a component of flowable fill. The beneficial use of CCBs conserves natural resources and energy, reduces greenhouse gas ("GHG") emissions, and reduces the amount of CCBs that need to be disposed. The U.S. EPA extolled the benefits of CCB beneficial use in its written testimony last month during the Senate Environment and Public Works Committee oversight hearings on the TVA coal ash release. The EPA noted that by recycling 13.7 million tons of fly ash in 2007, in place of Portland Cement, the United States saved nearly 73 trillion BTUs of energy, equivalent to the annual energy consumption of more than 676,000 households. This also reduced greenhouse gas emissions of 12.4 million metric tons of CO₂, which is equivalent to the annual GHG emissions of 2.3 million cars. Given these environmental benefits, AEP and the utility industry continues to work to maximize the options for CCB beneficial use. However, until full beneficial use of CCBs is achieved, continued management of CCBs in an environmentally responsible manner will remain an essential commitment of electric power generators.

In sum, we support a program that ensures the structural integrity and safety of coal combustion byproduct impoundments, but want to also ensure that any federal program is efficient and effective. We would welcome the opportunity to work further with the Subcommittee on the development of a federal approach to ensure that CCB impoundment safety be managed in a coordinated manner.

I would like to thank the Subcommittee for the opportunity to present the views of AEP, EEI and USWAG on this issue. I would be happy to answer any questions you have concerning my testimony.

Mr. COSTA. You still have another minute of your time. Thank you for your brevity, and to the point.

Mr. AKINS. Thank you.

Mr. COSTA. We look forward to working with you, and your comments, and the issue of uniformity as it relates to the different standards in different states.

Now we are at the round of the questioning, so I have the first opportunity with five minutes.

I would like to ask a question of all the panelists, whether or not you would both agree, or you would agree that the bill does enough, since two efforts that I think most people would think are common-sense response to the current circumstances.

One, saying that basic Federal, minimum Federal standard be applied for safe coal ash impoundments. And two, assembling a national inventory, which I think is important. The presentation that Mr. McAteer made I think is to be noted, but I don't know that the national inventory frankly is complete on how many there are; and also the information on stability and what is stored in those impoundments so that we can make an assessment based on based upon best information, and the soundness of that information.

Could each of you briefly indicate whether or not you would agree or disagree on those two important steps, quickly.

Mr. CRAYNON. I would agree that those are very important steps to be taken, both in inventory and establishment of general standards.

Mr. COSTA. And it really hasn't been done nationwide.

Mr. CRAYNON. That is correct.

Mr. COSTA. Mr. FitzGerald?

Mr. FITZGERALD. I am not aware of any nationally proposed processing of waste contaminants. I am not aware that there has been a national inventory for coal combustion product impoundments. And it is complicated by the fact that there is no unanimity among the states to have to classify these. Tennessee did not classify this failed structure as an impoundment.

Mr. COSTA. You noted that in your testimony.

Mr. FITZGERALD. I think that doing an inventory is extremely important. I think that a national set of standards is critical for states like Kentucky. We are one of 23 states that have adopted a misguided provision in our state law that says we can be no more stringent than the minimum Federal standards. And in the absence of Federal standards, the states simply are all over the map in terms of the quality regulation.

No, and that is not limited. Obviously, these impoundments are a host of issues with regards to state and Federal regulation, and we always should be mindful of that.

Mr. McAteer.

Mr. MCATEER. Yes, Mr. Chairman. I believe that the minimum Federal standards are absolutely essential.

Second, as to the national inventory, in the materials that we put in the packets, we did a preliminary draft of looking at the NID, the National Inventory of Dams, for a series of states. And we have noted 149 impoundments just as a preliminary matter.

You will note in that map, however, that Tennessee, the impoundments in Tennessee are not listed as part of the national inventory of dams. The national inventory of dams is inadequate, and I think they are absolutely essential that an inventory be done, and a ranking of those, as you suggest, a ranking of those as to hazardous materials. There are ranking systems for coal waste impoundments, but no ranking systems exist for these impoundments.

Mr. COSTA. Yes, I want to pursue the ranking. Because in all these things, I think developing some common-sense prioritization is important. Because not everything is as significant as it relates to health and safety as others, and you never have enough resources to treat them all the same.

And so if you prioritize them based upon the most serious, I think you can get the best bang for your buck in terms of health and safety efforts.

Finally, our last witness?

Mr. AKINS. Yes, I would totally agree with your approach in terms of being a common-sense approach. AEP operates in 11 states, and we have impoundments in all of those states. And we are very focused on processes and procedures being common among those states, and we, in fact, have adopted the most stringent state requirements and applications to all of our plants across the territory.

This is definitely a common-sense approach in terms of having some sort of Federal guideline, FED, you know, support.

Mr. COSTA. It is a good start. Let me quickly, because my time has almost run out, could each of you comment, beginning with you, on the merits of adding Federal requirements that coal ash impoundment operators, have an emergency action plan, as Mr. McAteer described?

Mr. AKINS. Yes. We have the requirement to put in emergency action plans for all of our class-one facilities. And we would certainly, certainly support that kind of effort.

Mr. McAteer, I assume——

Mr. MCATEER. The only addition is that we think to involve citizens in the development of those plans is——

Mr. COSTA. Of the action plan, in the local community.

Mr. MCATEER. That is correct.

Mr. COSTA. Yes. Mr. FitzGerald.

Mr. FITZGERALD. Mr. Chairman, we are in the process now, and hopefully the Kentucky General Assembly before they adjourn in April or end of March, will have adopted a resolution directing the Division of Water to do emergency action plans for all high-hazard coal waste and coal ash impoundments.

The state and the industry, to their credit, have come around and realized it is necessary.

Mr. COSTA. Good, good. My time is expired. Mr. Craynon, you can just nod your head.

Mr. CRAYNON. Agreed. It is standard practice.

Mr. COSTA. Very good, thank you.

The gentleman from Colorado, the Ranking Member, has now five minutes to ask his questions.

Mr. LAMBORN. Thank you, Mr. Chairman. Mr. Craynon, and I hope I pronounced that correctly, if this legislation is passed, how many employees do you estimate the Department of the Interior, and OSM in particular, will have to add in order to expand regulation to every coal-fired power plant in the country?

Mr. CRAYNON. We have not at this point done a detailed analysis of what resources will be necessary, but we are more than happy to work with the Subcommittee to develop that as time goes on.

Mr. LAMBORN. Is there any way you could submit that to us——

Mr. CRAYNON. Yes.

Mr. LAMBORN.—before this bill becomes, you know, hits the Floor?

Mr. CRAYNON. We will be happy to respond to that.

Mr. LAMBORN. OK. OK, thank you. Also, for Mr. McAteer and/or Mr. FitzGerald, given the fact that some states have excellent dam safety rules in place, how do you ensure that any Federal program for this does not result in unnecessary dual regulation of the same units?

Mr. FITZGERALD. Congressman, that is a very good question. That is something we want to avoid, because none of the agencies that I deal with have extra resources to squander in duplicative regulation.

Section 2[g][2] of the bill protects existing state programs that impose equivalent or more rigorous standards. And so I would assume that as regulations would be developed, there would be an opt-out provision where the Agency could look at the existing state program, and would defer to that state program.

You know, by putting in a floor preemption, you prevent kind of a downward spiral, but you don't prevent existing more rigorous programs. And for states like Kentucky, I wish we had the ability to go above the minimum standards. But unfortunately, we have turned the Federal floor into our ceiling.

Mr. MCATEER. Mr. Lamborn, I think the fact that we recommend, for example, that MSHA be involved in the approval of the plan is a conscious effort to try to reduce the cost, and to try to use what resources are there. The Mine Safety and Health Administration has a long history of studying for 36 years, looking at impoundment plans, and also at training individuals. And I think that that is one of the areas where we would like to reduce duplication. We would like to reduce overlap, as well.

Mr. LAMBORN. OK, thank you. Mr. Akins, what does the recycling of coal ash byproducts do for the reduction of carbon emissions?

Mr. AKINS. Typically, if we are able to recycle, it reduces carbon emissions, if we reuse, like, fly ash in concrete for example, to make concrete. For instance, using fly ash reduces one ton for CO₂ for every ton. It is a significant impact, and certainly supports the use of products like these in the industry.

Mr. LAMBORN. As a follow-up then, as currently written, will this legislation impact the electric utility industry? And if so, how?

Mr. AKINS. It will impact the utility industry, but depending on the outcome, obviously, and if a proper inventory is done, if rules are in place so you don't have duplicative regulations, it certainly can help the industry. Certainly for the industries, for the utilities that are multi-jurisdictional like AEP.

But second, if it recognizes the state impacts and programs that exist and they meet those thresholds, the Federal thresholds, it could have a very positive effect.

Mr. LAMBORN. OK, thank you. And for any one of you, if Congress were to extend SMCRA jurisdiction over the impoundments at power plants, as proposed in this bill, do you believe that SMCRA clean-up funds should be available to help deal with the mitigation and clean-up of coal ash?

Mr. FITZGERALD. That is a good question. Congressman, from my perspective, representing a number of people who have low-priority AML sites that probably will never be reached because the fund is not inexhaustible, the difference between the pre-law mines and the pre-law, if this becomes law, impoundments is that these existing impoundments are under a regulatory framework. They are typically being under-managed.

But in the case of the AML program, it was imposing in some states an entirely new regulatory framework where there had been none. And so it was looked at as a way of funding the remediation of sites for which there was no other clean-up obligation.

For these impoundments, many of them, there is either imminent hazard authority or circular authority and obligation. I don't know that I would support that, except in the case of an orphan impoundment, where there was no responsible party.

Mr. LAMBORN. Does anyone else care to comment on that?

Mr. MCATEER. I would just second what Mr. FitzGerald said.

Mr. LAMBORN. OK. My last question before the time runs out. Do you believe that the EPA should categorize coal ash as a hazardous waste, under Subtitle C of RCRA? Any one of you.

Mr. FITZGERALD. I will take a crack at that as well. Coal combustion waste, you have a range of different waste, Congressman. The scrubber sludges typically are not, are going to be in a range where they are going to leach metals or radionuclides at a concentration that could adversely affect human health.

Fly ash, I think the evidence, as we have gotten better at controlling air pollution, we are shifting the medium of where those metals and where the other pollutants are ending up. They are swarmed to the particulates that we are capturing.

And I think there really is a need, using appropriate testing, to go back and revisit whether, under certain types of disposal and management, these should be regulated as hazardous waste.

Mr. AKINS. We do not believe it should be as a hazardous waste, because obviously the EPA has looked at this several times and determined it is not a hazardous waste. It doesn't meet that threshold.

And second, 30 percent to 40 percent of our fly ash at AEP is used for products: concrete products, gypsum. We have a wallboard facility that just went in place in the last two years in West Virginia. Those kinds of facilities and reuse of those products is a prudent action to take.

Mr. LAMBORN. OK. Thank you for your testimony and for answering the questions.

Mr. COSTA. All right. The gentleman's time has expired, and we are going to have to walk through some of these issues, of course.

The Chairman, and the author of the legislation, is now next, and we defer to the gentleman from West Virginia.

Mr. RAHALL. Thank you, Mr. Chairman. Mr. Craynon, you have a very valuable distinction and honor for which I want to recognize you today. I don't know whether you know it or not. But I am going to congratulate you on being the first person from the Interior Department, under the Obama Administration, to appear before a committee in the House of Representatives.

Mr. CRAYNON. Thank you, Mr. Chairman.

Mr. RAHALL. Congratulations. And my first question is to you.

As you know, under H.R. 493 we incorporate the primacy provisions of SMCRA. Under the bill, a state with an approved regulatory regime could assume primacy in regulating coal ash dams under the terms of this legislation. And, as with SMCRA, your agency would regulate coal ash dams in those non-primacy states.

Coal ash is impounded in the states with no coal mining, such as Florida. Now, I know you might well open up a field office in Florida. But for the purpose of regulating coal ash impoundments, do you have any suggestions on how states like Florida or Wisconsin could gain primacy under the terms of this legislation?

Mr. CRAYNON. At this point in time, I am not in a position to tell you exactly how best we think that could be approached. But I would assume that a similar approach for approving state programs, as is used under the SMCRA program, could be appropriate.

Mr. RAHALL. OK. Fitz—Tom—

Mr. FITZGERALD. That is all right.

Mr. RAHALL. You have submitted some suggested amendments to the bill, and I thank you for that.

Mr. FITZGERALD. Absolutely.

Mr. RAHALL. Do you have any comments on the changes that OSM proposes in their testimony?

Mr. FITZGERALD. Well, I understand looking at the bill cold that the Agency would have responded the way they did. But the reason that the definition of impoundment is written as it is, to include solid, semi-solid, and liquid storage or disposal in any embankment structure, is to get precisely at the sort of situation that happened at TVA's Kingston plant. Where the facility, basically you had an impoundment that was a big, old slurry, you know, ash pond.

And then within it, they had created three separate landfill cells and palleted them as a landfill rather than as part of that impoundment. So that there was no, even if it had been, you know, a high-hazard impoundment, which it was in fact, at law it was called something completely different. It was inspected only very infrequently, and not subject to the sort of rigorous design standards.

We wrote this specifically to address that situation and to assure that this would not happen again under, under, you know, mislabeling the way it happened.

Mr. RAHALL. Is that what they called sludge sales?

Mr. FITZGERALD. They called them dredge sales.

Mr. RAHALL. Dredge?

Mr. FITZGERALD. And basically what they were doing was scooping the stuff out, and, you know, semi-liquid, and putting it in a cell.

Still, I have inquired of Megan Lockhart from TDEC whether they had any sort of a leachate collection system. Because I can't imagine with that—you know, this is a hydrophilic material. It is going to soak in the water. There is no daily cover. And if they didn't have an effective way to decant that water, there is no question that it was going to raise the saturated surface to the point where it was going to blow out to the side of it, which is what happened.

So, the reason it was written the way it was, and the definition of impoundment and the definition of covered waste was specifically to address the fact that this material, in these sorts of cells, even if it is placed in there in solid form, if it gets, you know, rainfall is going to saturate it. It is going to stay with it, and it could very well convert it into a semi-liquid with those sorts of consequences.

As the definition of slag, I understand the concern that we don't want to take in non-coal combustion waste slag. The reason it was used is because we have a number of facilities that are now looking at coal gasification, which produces a somewhat different product. It doesn't produce a fly ash and a bottom ash; it produces what is either called a slag or a frit, which is a more glassine substance that, depending on the literature you read, has some potential—it has less, but still some, potential to leach some of the residuals that are left after the gasification process.

Mr. RAHALL. Thank you. Mr. Akins, I appreciate your remarks very much. They are very responsible. And I agree with you that we need to expand the beneficiary uses of coal ash, rather than impound the material.

And that was an issue that I raised in my letter to the EPA Administrator, that any regulations promulgated under RCRA should promote the recycling of coal ash into beneficial applications.

I also know that in Wisconsin, 85 percent of coal ash is recycled. Why do you suppose the percentage is so high in that state?

Mr. AKINS. Could be different industries in place that are local, could be different requirements for concrete. The market obviously would be there for that kind of, that kind of material.

Really, it does depend on many factors. I mean, we use everything from plastics to concrete to wallboard facilities, those types of things. So it depends on what is available.

For example, the wallboard facility, the market could only take so much, so it will depend on the location and what the market actually can support.

Mr. RAHALL. OK. Davitt, my time is running short, but you do have one last opportunity before it expires.

Mr. COSTA. We always have time for the Chairman.

Mr. RAHALL. I just want to correct you. The National Research Council's coal waste impoundment study referenced in your testimony, if I recall—and I know we have been here a few number of years, and you kind of lose memory after a while—but I think it was Sen. Byrd and myself commissioned this, rather than Sen. Byrd and Hal Rodgers.

Mr. MCATEER. Mr. Chairman, after I said that and went on to the testimony, I thought to myself, what an error to make at this particular time.

[Laughter.]

Mr. MCATEER. But I do apologize. It certainly was you and Sen. Byrd.

Mr. RAHALL. The record shall be corrected.

[Laughter.]

Mr. COSTA. I have unanimous consent. I am glad that you corrected that, Mr. McAteer. You were off to a good start.

[Laughter.]

Mr. RAHALL. Davitt, you noted the use of mine sites for the disposal of coal combustion residues raises potential concerns and potential benefits. And you referenced the study which I just commissioned, I just announced.

Anyway, I would like to note that in my letter to the EPA Administrator, as I mentioned earlier, I did state that this practice should be discouraged until regulations implementing the Council's recommendations are put into place.

As you know, we have a situation in West Virginia where the DEP does not know if the injection of coal slurry into mines is safe, so I really don't think we want to ramp up disposing coal ash into mines until adequate regulations are in place.

With respect to disposal of coal ash and impoundments, would you say that the West Virginia regulatory program is similar to what I am proposing in the pending legislation?

Mr. MCATEER. Congressman, I agree with you that the findings of the Commission, as well as the study done, or not completed by the West Virginia DEP, raises real questions about the use of fly ash injection into mines. There are very serious concerns. And I think that the Commission's recommendations need to be adopted first as a structure if that is to happen.

The second is that we haven't, we don't understand the long-term consequences of such injections. We have some injection experience now in West Virginia, because we have done some; but we don't understand the long-term consequences, nor do we understand where the stuff is going to go at the end of the day. And whether it is going to contaminate water systems and aquifers, et cetera. We suspect it is.

There is some suspicion among some citizen's groups and some of our initial studies in the coal impoundment studies have suggested that the leaching of the materials. In coal waste impoundments you expect it to go underground, you expect it to be porous, and to go into the systems.

We have found that—we can't make a positive conclusion to 100 percent. But we have found that where this is some of this porous-nature material going into the systems, and those folks who live downhill are seeing that their water supplies, their wells, are suffering from contamination. And I think that really needs to be looked at. And I recommend, as you have, that the Committee's conclusions be made part of an overall structure before anything is done. And I think that is a very sound approach. And I think that, as I understand it, that is what you are doing.

It is also one of the reasons why I recommend that we use the dry method to dispose of this. Because in case of coal waste impoundments, there is a reason why companies want to do that. And that is, besides getting rid of the stuff, they want a cheap—inexpensive, I should say—constant supply of water so that they can clean the next round of coal that is coming out of the mine. And that impoundment does that for them.

I see no economic reason, other than the fact that it is cheaper in some instances, to wet this coal ash material. I see no reason why, there is no advantage of it, except that your costs, up-front costs are less for that than dry impoundment.

I think dry impoundment is a positive step. And I think that is a step that EPA has recommended, the National Academy of Sciences has recommended, and others have recommended, and it is a positive approach.

Mr. RAHALL. Great. Well, just let me repeat the question, and I believe you did answer.

But would you say that the West Virginia regulatory program is similar to what I am proposing in my legislation?

Mr. MCATEER. I think the regulatory program has some similarities. Yes, sir.

Mr. RAHALL. Yes.

Mr. MCATEER. Yes is the answer.

Mr. RAHALL. Thank you.

Mr. MCATEER. You are welcome.

Mr. RAHALL. Thank you, Mr. Chairman.

Mr. COSTA. I think we have a qualification. Next, the gentleman from Utah, Mr. Chaffetz, a new Member to the Subcommittee.

Mr. CHAFFETZ. Well, thank you, Mr. Chairman.

Mr. COSTA. Chaffetz, is that correct?

Mr. CHAFFETZ. Yes, we are getting there. Thanks, I appreciate it.

And Mr. FitzGerald, I hope you can carry back to your state and your colleagues our sincere wishes and prayers for Ms. Gruzsky, if I pronounced her name properly. That is sad to hear, and I know that our hearts and minds are there, as well.

With that, I would like to first go and have a brief discussion. My time is short.

It is my understanding that the U.S. Environmental Protection Agency has, on numerous occasions, articulated and looked at these coal combustion byproducts, and determined that they are not hazardous waste. They had four criteria for the corrosivity, reactivity, ignitability, and toxicity.

Would any of you disagree with those four criteria, or the conclusion that they came with?

Mr. FITZGERALD. I would disagree. If you look at the statutory definition of what is a hazardous waste, now, the Agency has adopted two different mechanisms. As you stated, one is they list some categorical types of waste from different, different activities. And the second is they have characteristics. And one of them is the characteristic of EP toxicity. What they use is a short-term dilute acid test. It is now TCLP toxicity, Total Constituent Leaching Procedure.

It is intended to mimic the leachate characteristics of a municipal solid waste landfill, to determine if that waste, if disposed in a solid waste landfill, would leach metals at a concentration 100 times safe drinking water standards.

In those situations where this waste is being managed in other aspects, whether in a monofill, or as construction material, or as so-called structural fill in some beneficial reuse—and I use that phrase very loosely, because it is very loose in the way it is applied in Kentucky and probably a number of other states—there are other tests that should be used to determine—

Mr. CHAFFETZ. OK, but the current concurrent configuration are those four, correct?

Mr. FITZGERALD. That is what the agency uses.

Mr. CHAFFETZ. That is correct? And this does not, it does not get into those four, the corrosivity and the four that I named.

Mr. FITZGERALD. Right, right. It is under the current criteria that EPA applies.

Mr. CHAFFETZ. My time is short.

Mr. FITZGERALD. I am sorry.

Mr. CHAFFETZ. I think I understand the direction you are going.

Mr. Craynon?

Mr. CRAYNON. We have worked with our colleagues at the EPA on these materials. Because over the last decade or so we have been considering the appropriate regulatory framework for coal mine placement, and we concur with the findings that the EPA made in the regulatory determination.

Mr. CHAFFETZ. Thank you. Mr. Craynon, if I can go to the—you expressed concern about the six-month timeframe, which does seem quite short. What would you recommend in terms of a timeframe, should this be enacted?

Mr. CRAYNON. Well, as I stated in my testimony, our experience is that a proposed regulation takes approximately a year. That gives us time to do the public outreach, prepare the supporting documents, and actually do the consultation with other involved agencies.

Mr. CHAFFETZ. Briefly, do either of the other three of you care to comment on the timeframe aspect?

Mr. FITZGERALD. Well, the timeframe for taking a regulation from nothing into promulgation would be longer. In this situation we have a history going back to 1979 of existing regulations governing impoundments for water and coal slurry. So in terms of identifying which standards would be applicable, obviously it is an aggressive timeframe.

Mr. CHAFFETZ. Do you have a specific recommendation as to the timeframe?

Mr. FITZGERALD. I think, if you look at the interim program, they had what, a year to do the interim program? You know, given the resources, they are understaffed now, so they are really all resource issues. A year is probably reasonable.

Mr. CHAFFETZ. OK.

Mr. RAHALL. Will the gentleman yield very quickly?

Mr. CHAFFETZ. Yes, please.

Mr. RAHALL. The EPA has had 29 years thus far.

Mr. CHAFFETZ. They certainly have. So 29 years, would that be enough time?

[Laughter.]

Mr. MCATEER. It appears that it hasn't been enough time.

Mr. CHAFFETZ. OK, fair enough. The last question here is just about the term "slag." You expressed some concern. Can you expand upon that, Mr. Craynon?

Mr. CRAYNON. Well, slag is a very loosely used term for any waste product from a fire- or heat-induced kind of refining technique. Slag can be used for the waste material for copper refining, or other metals refining, other kinds of industrial processes. It is just not a precise term that refers only to the waste from coal production.

Mr. CHAFFETZ. Mr. Akins, do you have—

Mr. AKINS. I would agree with that, his comments on that.

Mr. CHAFFETZ. OK. Thank you, Mr. Chairman. I yield back the balance of my one second there.

Mr. COSTA. All right. Thank you very much for your timeliness.

Our next Member, who is a returning Member to the Subcommittee, who actually first brought this to our attention prior to the accident that took place in Tennessee, Congressman John Sarbanes, who has had his own experience within his own district on these impoundments and the impact it has had in his own Congressional District.

We thank you for your efforts last year. And I am sure that you have some good questions for the witnesses before us.

Mr. SARBANES. Well, thank you, Mr. Chairman. I appreciate your holding that hearing last year, which really initiated the kind of oversight, and hopefully regulation, that there needs to be in this area.

My one observation is just some degree of disbelief that this thing has had a focus for as long as it has without resulting in the kind of regulatory regime that would have prevented many of the incidents that have been mentioned today.

As the Chairman indicated, in my district last year it came to light, with the effects of the disposal of fly ash, a bin, and a failure to properly provide for measures against leaching and other things, which then affected the water supply. It led to a significant settlement with Constellation Energy there, and has also triggered some further regulatory steps by the State of Maryland.

But I wanted to understand a couple of things. First of all, I want to thank the Chairman of the full committee for what he termed as this rifle shot directed at the particular issue that was involved in the Tennessee disaster, which is to look at these impoundments, which are largely designed to handle wet coal waste.

I gather that the Surface Mining Reclamation and Control Act now governs the disposal of coal waste at a mine location. Is that right? But doesn't extend beyond that.

Mr. CRAYNON. That is correct.

Mr. SARBANES. And that is why the legislation that is being proposed is necessary?

Mr. CRAYNON. That is correct, sir.

Mr. SARBANES. OK.

Mr. MCATEER. Congressman, if I might add, the jurisdiction is divided between the Mine Safety and Health Administration and the Office of Surface Mining, SMCRA. Under SMCRA, the general rule of thumb is MSHA controls it when the waste is on mine property, in conjunction with OSM; and OSM has responsibility if it goes off the mine property.

Mr. SARBANES. I understand. The Chairman, Chairman Rahall also pointed out, and has taken pains to point out, that in many respects, because this is a rifle shot, it should be viewed as just the first step of many to establish a larger regulatory framework to deal with this kind of combustion waste. Particularly since the projections are that the tonnage is going to increase significantly going forward.

I did, in the last exchange, though, pick up on something that was being implied, I thought. And that is, there was some discus-

sion of moving more toward dry impoundment versus, I guess, wet impoundment. And would dry impoundment include fly ash, or not?

Mr. MCATEER. Yes, Congressman, it would include fly ash.

Mr. SARBANES. OK. Well, I guess that is important from my perspective. I mean, as it happens, Mr. Chairman, your legislation may not get directly to any of the sites that we have in Maryland, because we don't have this wet disposal going on there.

But to the extent this discussion is going to lead to the conclusion that dry impoundment is a better, safer way to go, then it raises the bar on making sure that the disposal of fly ash, for example, which, since fly ash would now be seen as a more preferred option, that the disposal fly ash needs to be done in a way that makes, that makes sense.

And so by taking the rifle shot and beginning this process, we are also inviting the need to make sure that larger regulatory framework is in place, which I think is what the Chairman was alluding to. And so we are going to continue to focus on that.

Before my time runs out, I did just want to come back again to the beneficial use question. Because the point has been made that in some places, you know, up to 85 percent of the waste generated is being disposed that way.

Could we reach a point in time where beneficial use would be available to basically dispose of 100 percent of the waste that is generated in this? Or is that not a reasonable goal to have?

Mr. FITZGERALD. If I could take a shot at that. I think what you need in order to encourage beneficial reuse more broadly is a set of standards that differentiate between legitimate beneficial reuse and sham beneficial reuses. Because there is—utilities, to a certain extent, are reluctant to let someone else have their ash. They understand circular liability, and so many utilities will not, for example, give coal operations their ash to dispose of at coal mines. Some utilities do.

We have situations in Kentucky where one utility is generating fly ash and bottom ash, and sending it right over to a Portland cement company that is actually using it and incorporating it into product, where it is bound, where there is not environmental consequences associated with whatever metals are there.

We also have situations where there are sham beneficial reuses under very weak regulations. And I think in order to encourage the utilities and encourage the potential users, some standards on the quality of, and the composition of, those combustion byproducts, and some standards on how to assure legitimate versus sham uses would be helpful.

Mr. SARBANES. Fair enough. Thank you.

Mr. CRAYNON. Certainly it is important that, to see that from an expansion of the market respect, if it would be great to find more beneficial uses for fly ash. And it is not, I mean, certainly we can raise that percentage, but certainly we have to be aware of what those uses are. And I think that is probably one of the things we have to understand going forward.

But typically, we would obviously like to see more fly ash used for those kinds of benefits.

Mr. MCATEER. If I might, Congressman. We produce 131 million tons of this a year. That number is expected to go up. We need to find something to do with it.

Now, some of it is going to be more dangerous, some of it is going to have more toxicity to it. But we need to find ways to deal with that, and we need to find what other people around the world are doing with it to find out how we might use that beneficial use to apply some of this to other locations.

Mr. COSTA. The gentleman's time has expired, but we thank you for those good questions.

It is the Chair's intention to close the hearing after our last Member has had an opportunity to ask their questions. I will ask Members of the Subcommittee who have further questions to submit them for the record. And as I mentioned on the outset, if you do that sooner rather than later, we give our witnesses an opportunity to respond to your questions on any of the points that have been discussed, or the testimony that has been provided thus far.

Our last Member of the Subcommittee, a new Member who I met yesterday, a gentlewoman from Wyoming, Mrs. Lummis. Welcome to the Subcommittee.

STATEMENT OF THE HONORABLE CYNTHIA M. LUMMIS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WYOMING

Mrs. LUMMIS. Well, thank you. Thank you very much, Mr. Chairman. I appreciate your hospitality last evening.

And like our full committee Chairman, I share a concern for this subject because our states are major coal-producing states. Mine, the greatest coal-producing state in the nation. It is very important to me to see that those products are used in a safe manner so they continue to be of use to the people of this country, for the benefit of the people in my state, as well.

And I want you to know also, Mr. FitzGerald, that I could feel my own blood pressure go up when you were relaying the experiences of some of your clients. Because I am a landowner who lives downstream from a RCRA facility that had a failed impoundment. And I remember what it feels like to have your land polluted in that manner, and how helpless it feels.

And even under RCRA, sometimes more regulation throws up obstacle that allows a company that is not stewardship-oriented to just appeal and stall, and actually benefits them because of a regulatory scheme that is not a rifle shot. I think what we are looking for here is to find the rifle shot that will actually help the situation, instead of providing opportunities for industries that are not stewardship-oriented to throw up roadblocks. And certainly, that does not impair the abilities of companies that are stewardship-oriented from serving this country well.

[The prepared statement of Mrs. Lummis follows:]

Statement of The Honorable Cynthia Lummis, a Representative in Congress from the State of Wyoming

Thank you Mr. Chairman.

With two recent spills occurring at TVA's Tennessee and Alabama power plants—accidents that simply should not happen—there is no question that today's hearing is a timely one.

As the lone Representative in the U.S. House for the largest coal producing state in the nation, I am the first to realize that the future viability of this abundant resource will be almost wholly dependent on our ability to use coal in the most efficient, clean, and yes—environmentally sensitive—way possible. Coal Combustion by-product spills of this nature simply add to an already uphill battle faced by our coal producing and coal burning industries. These events are all the more frustrating because they can be avoided.

The legislation under consideration today raises other timing concerns as well. I will be interested in learning from our witnesses today whether pieces of this bill that require comprehensive data collection by the U.S. Department of the Interior are appropriate, or whether they are duplicative of similar inventory and assessment efforts already ongoing at the Environmental Protection Agency. I am a conservative who generally errs on the side of “smaller government is better government.” I am therefore also interested in this subcommittee studying whether encouraging increased coordination with our state governments is a potentially more appropriate first step than the expanded federal oversight mandated in this legislation.

These are the lenses from which I hope today’s panel will review and comment on the legislative efforts being debated today. Again, I look forward to hearing your testimony and I appreciate the opportunity to begin a thoughtful dialogue on this issue.

Thank you Mr. Chairman. I yield back the balance of my time.

Mr. LUMMIS. My first question, thank you, is for Mr. Akins. Could you elaborate on the EPA’s ongoing assessment of coal ash surface impoundments? Such as an assessment timeline, how that assessment is being coordinated with the electric utility industry and such.

Mr. AKINS. Yes. We have been working with the EPA, and the EPA is also working with the state agencies. And many of the states have already made the request for additional information in terms of engineering studies, in terms of inspections, in terms of the impoundment materials. Those types of things have been already accomplished; they are already in the progress of being done.

Now, EPA is somewhat short-handed. I think they are dependent on the state agencies, and they are obviously dependent on us to actually produce that type of information. That is an ongoing process that is occurring now.

Also, the utility solid waste activities group has been involved with the EPA, as well, because they have been working on standards to be applied across the industry, associated with the monitoring of these areas.

There is a lot of work being done. I don’t know what the timeline is; maybe someone else does. But that is what I know about at this point.

Mrs. LUMMIS. Thank you very much. Mr. Craynon, could you respond as well? I would like your feedback on whether the inventory of existing impoundments in this bill would add value to EPA’s ongoing assessment, or is it duplicative?

Mr. CRAYNON. Well, I hesitate to speak for my colleagues at EPA, but I would assume that they would welcome any input that added to what they have already got underway.

Mrs. LUMMIS. OK. Thank you, Mr. Chairman. I would also like to ask Mr. Craynon, does OSM have the expertise to develop regulations for impoundments at power plants now, or is that something that you would have to acquire?

Mr. CRAYNON. As I mentioned in my testimony, impoundment safety has been a part of the Surface Mining Regulatory Program

since the beginning. And we feel very confident in our ability to look at the engineering of impoundments, wherever they would be located. But this would expand the area that we would be responsible for.

Mrs. LUMMIS. OK. Thank you very much. Question for Mr. Fitzgerald.

You testified the definition of impoundment should be broadened in the bill to encompass all embankment-type structures that retain these wastes, whether in a solid, semi-solid, or liquid form. And I want to ask, what is your reasoning for including solid coal materials in this definition?

Mr. FITZGERALD. That is a good question. It would be solid coal combustion waste materials. And the reason for including them is because they are a type of material—what we are looking at here is embankment-type landfills. They are material that will retain water. They are typically disposed of without daily cover because there is no putrescible material there. And so they will be exposed to the elements, and they will become, over time with that kind of a disposal method, a semi-liquid.

So they will start out in a solid form. I am not sure what Tennessee, if Tennessee would have called this a landfill. If this material, when it was being placed in there, I don't know whether they would have considered it semi-liquid or solid.

But I was trying to ensure that any time you are building an embankment structure that is, of necessity, above grade, and you are placing this material in there, a hydrophilic material, that it would be regulated under rigorous standards, so that impoundment would be able to withstand the potential that the material becomes saturated, would increase the saturated surface on the face of the impoundment, and eventually fail.

Mrs. LUMMIS. OK. Mr. Chairman, thank you kindly. And I would also like to thank our witnesses for being here today.

Mr. COSTA. Thank you for your good questions. And again, welcome to the Subcommittee.

And I want to thank our witnesses, as well, on behalf of the entire Subcommittee, for your good work, your testimony. There may be further questions that will be submitted to you with regards to the issue at hand.

It is my understanding, for Members of the Subcommittee and those in the audience, that Chairman Rahall does intend to bring this matter to the full committee in the future for a mark-up, and the time to be determined by the Chairman.

Your testimony is timely, and I am sure that there will continue to be information and exchanges on that information as this bill moves forward. It is a work in progress. We appreciate all of your good work.

Thank you very much. The Subcommittee is now adjourned.

[Whereupon, at 11:40 a.m., the Subcommittee was adjourned.]

[Additional material submitted for the record follows:]

**Response to questions submitted for the record by Nicholas Akins,
Executive Vice President for Generation, American Electric Power**

Responses to Questions from Representative John P. Sarbanes of Maryland

QUESTION 1: Currently coal ash is beneficially used in concrete manufacturing, building materials, roadway embankments, development projects, and certain agricultural applications, what specific federal policies would you recommend to expand the current beneficial reuse of coal ash?

RESPONSE 1:

As an initial point, it must be made perfectly clear that regulating coal ash as a hazardous waste would have a significant and negative impact on the beneficial use of these materials. EPA itself recognized this point in its 2000 Regulatory Determination for fossil fuel combustion wastes. Aside from concluding that coal ash did not warrant hazardous waste regulation, EPA recognized that designating coal ash as a hazardous waste would place a “significant stigma on these wastes, the most important effect being that it would adversely impact beneficial use.” 65 Fed. Reg. 32214, 32232 (May 22, 2000). EPA did not want to “place any unnecessary barriers on the beneficial use of these wastes, because they conserve natural resources, reduce disposal costs and reduce the total amount of waste destined for disposal.” Id.

The States and coal ash marketers and users concur with this assessment and have continued to urge EPA to avoid designating coal ash as a hazardous waste because such designation would effectively end the beneficial use of these materials. In fact, some State beneficial use programs expressly prohibit the beneficial use of a hazardous waste. Thus, if coal ash were inappropriately labeled a hazardous waste, beneficial use would end immediately in these States.

With respect to expanding the beneficial use of coal ash, we recommend that EPA, the Department of Energy and other participating federal agencies remain committed to the Coal Combustion Products Partnership (C²P²) program. The C²P² program is a cooperative effort between EPA, the American Coal Ash Association, the Utility Solid Waste Activities Group, the U.S. Department of Energy, the U.S. Department of Agriculture-Agricultural Research Service, U.S. Federal Highway Administration, and the Electric Power Research Institute to help promote the beneficial use of Coal Combustion Products (CCPs) and the environmental benefits that result from their use.

Among the goals of the program are to (1) reduce adverse effects on air and land by increasing the use of coal combustion products to 50 percent in 2011 from 32 percent in 2001, and (2) increase the use of CCPs as a supplementary cementitious material in concrete by 50 percent, from 12.4 million tons in 2001 to 18.6 million tons in 2011, thereby decreasing greenhouse gas emissions from avoided cement manufacturing by approximately 5 million tons. The federal government’s commitment to the C²P² program must be sustained and be reflected in overall regulatory decisions involving coal ash.

Moreover, the federal government, and EPA in particular, should more aggressively use the federal Comprehensive Procurement Guideline (CPG) for Products Containing Recovered Materials (codified at 40 C.F.R. Part 247) to include additional items manufactured with coal ash. This is an important mechanism for directing federal procurement dollars to products containing the highest percentage of recovered materials practicable, including coal ash. See RCRA 6002, 42 U.S.C. § 6962. Congress should direct EPA to use this important program more aggressively to further promote the environmental beneficial uses of all coal combustion byproducts.

QUESTION 2: Are you aware of any downside in the beneficial reuse of coal ash such as runoff, leaching or diminished structural integrity of the building materials?

RESPONSE 2:

We are not aware of any downsides regarding the beneficial reuse of coal ash in the context of structural integrity of building materials. In fact, EPA’s C²P² website contains information underscoring the fact that the proper use of coal combustion products (CCPs) in building applications can yield environmental, economic, and product performance benefits. EPA’s C²P² site highlights the fact that the “inherent performance benefits of concrete made from coal ash actually leads to additional environmental benefits. Highways and bridges made with coal ash concrete are more durable than those made without it and, therefore, do not need to be repaired and replaced as often.” See www.epa.gov/epawaste/partnerships/c2p2/index.htm.

As with any construction or engineering project where coal ash or any material is being used for engineering purposes, care must be given to control runoff. To help address these concerns, consensus standards have been developed by ASTM Inter-

national specifically designed for the “Design and Construction of Coal Ash in Structural Fills.” See ASTM Standard DE2277-03. This standard covers procedures for the design and construction of engineered structural fills using coal fly ash, bottom ash, or ponded ash. In addition, EPA’s C²P² program cites research conducted or supported by the Electric Power Research Institute, government agencies, and universities illustrating that the beneficial uses of coal combustion products in highway construction have not been shown to present significant risks to human health or the environment. See www.epa.gov/epawaste/partnerships/c2p2/index.htm. Again, however, as with any building materials, precautions and sound management practices should be applied when using coal ash in unencapsulated uses.

QUESTION 3: EPA Administrator Jackson has said that she will move aggressively to regulate the disposal of coal combustion waste. What do you think are the most important elements of a regulatory framework for the disposal of dry coal combustion waste products? How do you think those regulations should be structured?

RESPONSE 3

We believe that EPA properly identified the regulatory framework for coal combustion waste in its May 2000 Regulatory Determination for fossil fuel combustion wastes. 65 Fed. Reg. 32214 (May 22, 2000). Specifically, EPA determined that coal combustion wastes do not warrant hazardous waste regulation. Rather, EPA determined that subtitle D (non-hazardous waste) regulations are “the most appropriate mechanism for ensuring that these wastes disposed of in landfills and surface impoundments are managed safely.” Id. at 32221. There have been no subsequent EPA determinations reversing the sound policy and scientific underpinnings of this conclusion.

State environmental regulatory agencies have continually supported EPA’s conclusion that coal combustion byproducts do not warrant hazardous waste regulation. Just last year, the Environmental Council of the States (“ECOS”) issued a Resolution agreeing with EPA that the disposal of coal combustion byproducts does not warrant hazardous waste regulation (http://www.ecos.org/files/3330_file_Resolution_08_14_CCW.pdf). The States are especially concerned that hazardous waste regulation of coal combustion byproducts would threaten the survival of the growing market for beneficial use of these materials, a concern EPA also expressed in its 2000 regulatory determination. See 65 Fed. Reg. at 32232. The Association of State and Territorial Solid Waste Management Officials (“ASTWMO”) also has commented to EPA that, if the Agency is to develop federal controls for coal combustion byproducts, “clearly it is more appropriate to develop them under [RCRA] Subtitle D.” See ASTWMO Comments on EPA’s Notice of Data Availability on the Disposal of Coal Combustion Wastes in Landfills and Surface Impoundments (EPA-HQ-RCRA-2006-0796).

Thus, the proper regulatory framework for coal combustion waste is a non-hazardous waste program under Subtitle D of RCRA, with the States retaining the primary role for regulating these materials.

**Response to questions submitted for the record by Tom FitzGerald,
Kentucky Resources Council, Inc., Frankfort, Kentucky**

Questions from Representative John P. Sarbanes of Maryland

- 1. Currently coal ash is beneficially used in concrete manufacturing, building materials, roadway embankments, development projects, and certain agricultural applications. What specific federal policies would you recommend to expand the current beneficial reuse of coal ash?**

There are a number of legitimate beneficial uses for coal combustion ash, including those mentioned specifically in Congressman Sarbanes’ question. There have also been, due to the absence of an effective and uniform national regulatory framework for management of the various coal combustion wastestreams (including fly and bottom ash), numerous instances in which “beneficial reuses” have undermanaged the coal combustion wastes relative to their potential environmental risks, and where activity more in the nature of disposal has been mischaracterized as “beneficial reuse” in order to avoid more rigorous disposal obligations.

One dubious “beneficial reuse” is the backhauling and land disposal of coal combustion ash in mine works. Coal combustion wastes are being backhauled and disposed, or “beneficially reused,” in mine workings (including both underground mine voids and more commonly, in surface mine backfills or spoil/mine waste fills) not because of the inherently beneficial or desirable attributes of the wastes relative to

other backfill materials, or the lack of alternative locations available to utilities and non-utility customers for coal combustion waste disposal. Rather, such use and disposal is occurring because the coal companies offer the backhauling and disposal as a “service” or incentive in order to attract buyers for their coal in an increasingly competitive marketplace. Absent federal intervention to establish appropriate regulatory benchmarks for characterization and management of the wastes based on their intended end use or disposal, the competitive forces of the electric utility marketplace will continue to result in a parochial failure of the individual states to effectively control the disposal of CCW, and will increase pressure on coal companies to remain “competitive” with each other, and with other coalfields across the nation, by offering the ultimate “out of sight, out of mind” solution to the generation of the coal combustion waste—indiscriminate blending in mine backfill.

What is known concerning the potential toxicity of the leachate from coal combustion ash suggests that a general federal floor of management standards is needed. As improvements continue to be achieved in both pre- and post-combustion scrubbing and capture of particulates and metals, we will of necessity change the composition and increase the potential toxicity of the wastes and leachate.

The proper management of CCW is essential for protection of human health and the environment. Adequate and comprehensive safeguards will prevent trafficking in environmental contamination by removing the incentive for those more interested in currying market share and short-term economic gain rather than the long-term public interest to undermanage the wastes.

There is good reason to insist that prior to approving coal combustion wastes for beneficial reuse, that appropriate characterization of the wastes be conducted for both short- and long-term leaching potential. These wastes contain a number of constituents of potential environmental and public health concern.

According to the EPA Report *Wastes from the Combustion of Coal by Electric Utility Power Plants*, EPA/530-SW-88-002:

The primary concern regarding the disposal of wastes from coal-fired power plants is the potential for waste leachate to cause ground-water contamination. Although most of the materials found in these wastes do not cause much concern (for example, over 95 percent of ash is composed of oxides of silicon, aluminum, iron and calcium), small quantities of other constituents that could potentially damage human health and the environment may also be present.

These constituents include arsenic, barium, cadmium, chromium, lead, mercury and selenium. At certain concentrations these elements have toxic effects.

Id., at ES-4.

While the findings of the EPA Report and review of industry-generated studies indicated generally that metals did not leach out of coal combustion waste (CCW) at hazardous levels, hazardous levels of cadmium and arsenic were found in ash and sludge samples, and boiler cleaning wastes sometimes contained hazardous levels of chromium and lead. Id.

While acknowledging that coal combustion wastes (fly ash and scrubber sludge) do not usually exhibit sufficiently high toxic properties to be classified as “hazardous” based on TCLP toxicity (meaning they don’t leach metals at 100x safe drinking water levels), CCW does contain high enough concentrations of leachable toxic elements to create significant environmental concern. Boulding, J. Russell, *Disposal of Coal Combustion Waste in Indiana: An Analysis of Technical and Regulatory Issues* (1991).

Among the significant findings of this report, based on extensive literature review and analysis of coals burned in Indiana utilities (including Kentucky coals), are that:

1. *Neither EP [toxicity] nor TCLP tests provide a good indication of leachability of CCW in natural disposal settings. Long-term leaching tests conducted until equilibrium has been achieved for each element of concern, using a leaching solution that approximated percolating groundwater, would give a more accurate depiction of ground-water contamination potential at a disposal site.*
2. *17 potentially toxic elements are commonly present in CCW: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, molybdenum, nickel, selenium, vanadium, and zinc.*
3. *Fluidized bed combustion (FBC) wastes retain volatile and semi-volatile elements in the bottom ash to a greater extent than conventional pulverized coal combustion, thus enhancing the leachability of FBC waste elements.*
4. *Leachates from coal power plant ash and flue gas desulfurization wastes typically exceed drinking water standards, but by a factor less than hazardous levels (i.e. 100 x DWS). The major leaching studies on CCW indicate that drinking water standards are typically exceeded by CCW ash leachate at a factor of 1.1 to 10, and often by a factor greater than 10 for one or more elements.*

The EPA Report and Boulding study indicate that the management of CCW must be attuned to the variability of the concentrations of potentially toxic elements in the waste, and to the different problems presented by disposal sites, and by the type of special waste (i.e. FBC v. non-FBC wastes).

While the EPA Report concluded that CCW need not be regulated under RCRA Subpart C as hazardous, but rather that the wastes should continue to be regulated under Subpart D as solid wastes. In so recommending, EPA determined that while field observations detected off-site migration of potentially hazardous constituents from utility waste disposal sites, reflecting a potentially larger problem than laboratory analyses would suggest, the use of mitigative measures under Subpart D such as installation of liners, leachate collection systems, and ground-water monitoring systems and corrective action to clean up ground-water contamination, would be adequate for protecting public health and the environment. The EPA recommendation was predicated on the application of such measures to the management of CCW. *Id.* at ES 4-5.

Unfortunately, such measures are not employed in these situations where the ash is given to another entity for "beneficial reuse" and is disposed of as fill.

Prior to land application of the waste ash, any potential for leaching or other environmental release (including dermal or airway exposure to metals sorbed to the ash) must be thoroughly considered and the material must be determined appropriate for the intended use both in the short and the long-term. The testing that most states employ is a short-term dilute acid test known as TCLP testing, and is not appropriate for most "beneficial reuse" scenarios.

The literature summarized below reflects clearly that TCLP testing is insufficient to predict short-and long-term leaching characteristics of coal combustion fly and bottom ash used as fill. The use of short-term batch leaching tests, such as TCLP, EP-Toxicity, SPLP, and ASTM-D2987 (Shake Extraction) are not necessarily reflective of field conditions and long-term leaching potential. According to Ann Kim of the National Energy Technology Laboratory, "[t]he utilization of coal combustion by-products (CCB) as bulk fill and mine backfill has raised questions about the potential contamination of surface and groundwater. . . . Leaching is related to the solubility of a specific compound and can be influenced by pH, temperature, complexation, and oxidation/reduction potential. . . . Regulatory tests and standard methods are not necessarily appropriate for leaching tests intended to stimulate natural processes." Kim, CCB Leaching Summary: Survey of Methods and Results."

The TCLP test method is a batch test developed by EPA in response to deficiencies in an earlier test, the Extraction Procedure (EP). The test

was designed as a screening test to consider conditions that may be present in a municipal solid waste (MSW) landfill. It is acetic acid buffered to pH 5 (initial); 20: 1 liquid/solid ratio; particle size reduction to 9.5 mm; equilibrium. The reason it was designed this way was because, under RCRA, EPA is required to regulate as hazardous all wastes that may pose a hazard to human health and the environment if they are mismanaged. . . . co-disposal of industrial solid waste with MSW is considered to be a plausible "worst-case" management of unregulated waste.

Helms, U.S. EPA Leach Testing of Coal Combustion Residues.

As Gregory Helms with the EPA Office of Solid Waste explained, the EPA Science Advisory Board commented on the TCLP test method in 1991 and again in 1999, expressing concern "about overbroad use of the TCLP test." *Id.* The SAB found that TCLP is a screening test that evaluates leaching potential under a single set of en-

vironmental conditions. The SAB has expressed concern over the use of the TCLP when it has been applied to determine the leaching potential of wastes in disposal settings other than municipal waste co-disposal has been criticized.¹

The U.S. EPA utilized a new multi-tiered testing framework in a research program designed to evaluate the potential for mercury release from various types of coal combustion wastes.² The alternative framework evaluates the potential leaching of waste constituents over a range of values for parameters that affect the leaching potential. In explaining the EPA decision to utilize a leach testing approach developed by Kosson et al. at Vanderbilt in evaluating leaching from coal combustion residues resulting from mercury emissions controls, Helms explained that TCLP wasn't used for evaluating coal combustion residues from enhanced mercury controls because "TCLP is not technically appropriate" where the disposal is not co-disposal with MSW.

Other commentators have noted the limitations of the use of TCLP as an analytical method for predicting leaching potential of coal combustion wastes. Hassett notes that

The TCLP is often used in a generic manner for the prediction of leaching trends of wastes, although the intent of this test was for the prediction of leaching under co-disposal conditions in sanitary landfills. The application of acidic conditions to predict field leaching that can occur under a wide range of conditions may lead to false prediction of leaching trends. Additionally, conditions imposed on leaching systems by inappropriate leaching solutions may alter the distribution of redox species that would be found in the field and, in some cases with reactive wastes, 18 hours, as specified in the TCLP and other short-term leaching tests, may be an insufficient equilibration time. In order for a batch leaching test to be used, in determining potential for environmental impact . . . when being used with CCBs, the test must take into account the unique properties of the material, especially the hydration reactions of alkaline CCBs.

Hassett and Pflughoeft-Hassett, Evaluating Coal Combustion By-Products (CCBs) For Environmental Performance.

Because the tests are not designed for use with CCBs, they do not account for several typical reactions in CCBs under hydration. It has long been known that laboratory leaching procedures cannot precisely simulate field conditions nor predict field leachate concentrations. However, with careful application of scientifically valid laboratory procedures, it is possible to improve laboratory-field correlations and modeling efforts focused on predicting leachate concentrations. Id.

Hassett recommends the development of a selection of laboratory leaching procedures that more closely simulate field management scenarios, focusing specifically on technical and scientific variables such as the long-term hydration reactions that can impact leachate concentrations of several constituents of interest, the means by which water contacts the CCB in order to simulate the reduced permeability frequently exhibited in CCB utilization applications, the impact of pH and other CCB properties on the leachate and on resulting leaching; and the prediction of, and changes in, leaching over time. Id. Hassett recommends use of Synthetic Groundwater Leaching Procedure with a long-term leaching (LTL) procedure as a better predictor of leaching under field conditions. His work reflects that "[I]n many applications, the extended-time SGLP 'has demonstrated trends significantly different from TCLP and other commonly used leaching protocols'."

The explanation for the differing results and trends between the extended-time SGLP and TCLP "can be explained by the fact that many commonly used leaching tests impose conditions different from those in a field environment on samples, and, thus, bias data in a manner leading to inappropriate interpretation for environmental impact. Elements most often affected include arsenic, boron, chromium, vanadium, and selenium." Id.

The EPA Report on Characterization of Mercury-Enriched Coal Combustion residues from Electric Utilities Using Enhanced Sorbents for Mercury Control, EPA/600/R-06/008 (January 2006) further underscores both the importance of utilizing proper test methods for characterization of these coal combustion wastes, and the trend towards increasing potential toxicity of such wastes as air pollution controls better capture metals entrained in and released during combustion of the coal. Among the observations of the agency were that "arsenic and selenium may be leached at levels of potential concern from CCRs generated at some facilities both with and without

¹ Science Advisory Board, 1999. "Waste Leachability: The Need for Review of Current Agency Procedures". February 26, 1999. EPA-SAB-EEC-COM-99-002.

² Kosson, D.S., et al., 2002. "An Integrated Framework for Evaluating Leaching in Waste Management and Utilization of Secondary Materials." Environmental Engineering Science, v. 19, No. 3. pp. 159-204.

enhanced mercury control technology [and that] further evaluation of leaching or arsenic and selenium from CCRs that considers site specific conditions is warranted."

With respect to the sufficiency of TCLP, EPA noted that leaching tests "focused on a single extraction condition" would not have allowed for an evaluation of the variations in anticipated leaching behavior under the anticipated field disposal conditions.

Reliance on total and TCLP data rather than on laboratory data that more accurately and adequately characterizes the leaching potential and "nonhazardous" nature of the wastes over the long-term, places both the utility and the regulatory agencies in a position where they cannot demonstrate with any degree of confidence that the use of these CCBs will not leach constituents of concern at levels of both regulatory and environmental concern. As part of any regulatory framework to review and approve beneficial reuses of coal combustion wastes, the EPA should direct that testing appropriate to the intended end-uses be performed. Dynamic testing under a range of conditions will better predict the long-term leaching potential of these coal combustion wastes when used as fill in conditions where they are not isolated from surface or groundwater infiltration.

Returning to the question, in short, the adoption of a program of uniform, comprehensive and appropriate minimum standards for the characterization and management of coal combustion wastes both for reuse and disposal is the best way to improve the beneficial utilization of CCW by weeding out ill-conceived and under-protective reuse proposals, and sham reuses that are in the nature of disposal.

2. Are you aware of any downside in the beneficial reuse of coal ash such as runoff, leaching or diminished structural integrity of the building materials?

The "beneficial reuse" situations of which I am aware include a range of uses. In those cases where the materials are incorporated into a fixed matrix and become part of a product, such as the use of ash in Portland Cement manufacture, the interest of the manufacturer in assuring that the blending of ash into the produce will not compromise the functional or structural integrity of the material acts to constrain, to a certain extent, the negative impact of the material on structural integrity or performance.

Of greater ecological concern in my experience has been the use of coal ash (particularly fly ash) as "fill" or for backfilling utility trenches. In those instances, the unconsolidated or partially consolidated disposal of the material can allow groundwater or precipitation to leach metals out of the wastes at levels exceeding drinking water levels. Numerous instances of groundwater and surface water contamination associated with managed disposal have been documented, and there is no reason to believe that disposal in unlined "fills" or utility trenches would cause a different outcome in terms of the fate and transport of leached metals.

Documentation of specific instances of contamination associated with "beneficial reuses" is harder to come by, since one of the significant weaknesses in state-lead programs for "beneficial reuse" is that, while environmental performance standards for protection of surface or groundwaters is usually established, no advance testing is required, and no groundwater or surface water monitoring of the site of the "re-used" material is required, so that compliance with the standards is not demonstrated and violations are not detected. As mentioned above, proper testing (appropriate to the disposal or reuse conditions) should be a cornerstone of any management framework.

3. EPA Administrator Jackson has said that she will move aggressively to regulate the disposal of coal combustion wastes. What do you think are the most important elements of a regulatory framework for the disposal of dry coal combustion waste products? How do you think those regulations should be structured?

KRC believes that any program developed by EPA should be developed under the Resource Conservation and Recovery Act and should include:

- Identification of and proper management and disposal of other fossil fuel-related wastes that may contain higher levels of toxic constituents, such as (1) fluidized bed combustion (FBC) wastes that may contain residual unburned organics not associated with typical coal ash. Greater scrutiny is warranted for FBC waste, which presents a higher potential for leaching elements of concern; (2) wastes generated through the firing of hazardous waste fuels and waste oils with or without coal; and (3) wastes fired or co-fired with waste tires and refuse-derived fuel. Each of these categories adds constituents to the combustion process which may increase the hazards of improper disposal of the waste, including a range of products of incomplete combustion of chlorinated and other synthetic organic

compounds that warrant extensive analysis, characterization and careful management beyond that necessary for coal combustion waste.

- Clarification that coal combustion wastes do not include utility wastes such as metal and boiler cleaning wastes, nor other wastes generated from power plants beyond those directly resulting from combustion of coal and control of emissions from the combustion process.
- Screening of all coal combustion wastes for radionuclides and management as low-level radioactive wastes in accordance with the applicable state and federal laws, where those wastes exhibit activity that is above background levels. Coal combustion waste containing elevated radionuclides should be classified and managed as technologically enhanced low-level radioactive waste.
- Complete characterization of the waste stream(s) proposed for land disposal, and assurance that the engineering design of the disposal facility or proposed reuse scenario will assure compliance with the environmental performance standards (including no contamination of aquifers above drinking water standards and no increase in groundwater of any constituents above background levels of those contaminants). Whenever possible the chemical and physical composition of the actual waste stream that will be produced by the combustion process at the utility from which the waste will be generated, should be used for testing.
- In order to properly design a facility for disposal of coal combustion waste, or to demonstrate that reuse will not cause environmental harm, the leaching potential must be established by use of appropriate modeling of the disposal site, the amount of rainfall infiltration, the pH of the waste and associated materials through which the rainfall will pass, and a hydrogeologic investigation into the location, extent, and characteristics of the surface and groundwater systems at the site. As noted above, short-term TCLP testing is insufficient to characterize longer term leaching potential, and should not be used in any situation except where the coal combustion wastes are being co-disposed with mixed municipal waste in a Subtitle D landfill.
- Groundwater monitoring must be sufficient to allow for prompt detection of leachate migration at the waste site (and not the mine) boundary. Monitoring parameters and well locations must be such that they are appropriate to the area in which the waste is disposed.
- Blending of mine wastes containing fly ash with spoil in the mine backfill, rather than controlled placement of the wastes in a designed facility, should be treated as prohibited open dumping.
- A requirement for controlled placement in a discrete, properly engineered and lined land disposal facility with groundwater monitoring, leachate collection, closure and post-closure care, and financial responsibility. When EPA determined that issuance of regulations under Subtitle C of RCRA was not necessary to adequately manage the environmental risks associated with disposal of coal combustion wastes, it premised that determination on the assumption that the environmental performance standards and protections of Subtitle D would be extended to the management of that industrial waste stream.
- Financial responsibility sufficient to assure that proper closure and post-closure care is provided in the event of default by the facility owner and operator.
- The framework must be a regulatory framework rather than asset of "guidelines." The lack of federal minimum standards has resulted in uneven state standards and under-regulation of the wastes. Kentucky, for example, has more rigorous standard for co-disposal of CCW in mines, but extremely weak controls on beneficial reuse and disposal in "ash ponds." The lack of federal minimum standards has and will continue to result in one-downsmanship and a "race to the bottom" among the coal states, as companies desirous of securing market share from the purchaser of the lion's share of their output, the utility industry, offer to backhaul and dispose of coal combustion wastes as a package deal.

Issuance of national guidance is insufficient to assure proper management of these wastes, since many states have "no more stringent" provisions that would prevent states from extending regulatory authority over disposal of the wastes to incorporate federal guidance, since states can adopt and impose only those standards that have been adopted by regulation at the federal level. Also, some states cannot under state law impose substantive requirements based on "policies."

Additionally, the lack of minimum standards penalizes utilities that manage wastes under higher standards relative to their brethren who allow disposal of coal wastes by the coal industry either for "beneficial" uses or as mine fill.

Finally, the lack of national regulatory standards sufficient to assure protection of land, air and water resources heightens conflicts between host communities and the utility and coal industry due to concerns with under-regulation of the coal com-

bustion wastes relative to their potential to leach metals and other constituents at levels posing environmental or health risks.

I have attached a March 2, 2009 letter that outlines in more detail what I believe to be necessary components of an appropriate regulatory program for coal combustion wastes.

Thank you for the opportunity to address these issues, and for the hospitality extended me during the February 12, 2009 hearing. Please let me know if you need further information.

[NOTE: The letter submitted for the record has been retained in the Committee's official files.]

**Response to questions submitted for the record by J. Davitt McAteer,
Vice President for Sponsored Programs, Wheeling Jesuit University**

Questions from Representative John P. Sarbanes of Maryland

Currently coal ash is beneficially used in concrete manufacturing, building materials, roadway embankments, development projects, and certain agricultural applications, what specific federal policies would you recommend to expand the current beneficial reuse of coal ash?

Coal ash beneficial use could be increased especially in road construction, roadway expansion and development projects. Specific federal guidelines relating to Department of Transportation materials use requirements, especially under the stimulus Recovery and Reinvestment Act of 2009 spending plans, could be modified as follows: Coal Combustion Beneficial (CBB) material shall compose at minimum 35% of cement mixtures for any project undertaken under the stimulus Recovery and Reinvestment Act of 2009, and CBB's shall compose at least 25% of all construction, flowable fills, base and sub-base materials used under the Act. These regulations should also specifically require environmental impact analyses of such increased use as an integral part of increased uses, and studies of such uses should include a review of environmental impacts in other countries.

Are you aware of any downside in the beneficial reuse of coal ash such as runoff, leaching or diminished structural integrity of the building materials?

Inadequate information currently exists relating to potential downsides of increases in beneficial uses, evidence appears to support increases in beneficial uses, but as mentioned above, analysis of potential environmental impacts should be made part of the increased beneficial use package. Each state shall develop criteria for Resource Conservation and Recovery Act's (RCRA), Subpart C, hazardous waste disposal and Subpart D, beneficial use, these beneficial uses be accomplished by documentation, environmental safeguards and report requirements.

EPA Administrator Jackson has said that she will move aggressively to regulate the disposal of coal combustion waste. What do you think are the most important elements of a regulatory framework for the disposal of dry coal combustion waste products? How do you think those regulations should be structured?

Any regulatory framework for the disposal of dry coal combustion waste products should contain several elements, as was mentioned in my testimony. At a minimum, this should include liners, long-term ground and surface water monitoring, citizen or community involvement, provisions for providing ongoing safety protection such as emergency evacuation plans, requirements for providing public information on spills, incidents and appropriate emergency contact information. For examples, see www.coalimpoundment.org.

[The documents listed below have been retained in the Committee's official files.]

- Bird, Cathie, Chair, Strip-mine Issues Committee, Save Our Cumberland Mountains (SOCM). Letter submitted for the record
- Conrad, Gregory E., Executive Director, Interstate Mining Compact Commission, Statement submitted for the record

- FitzGerald Attachment 1—"Mine Placement of Coal Combustion Wastes"—Testimony before the National Academy of Sciences dated April 19, 2005
- Gruzesky—Attachment 1—151.293 Certificates of inspection
- Gruzesky—Attachment 2—151.295 Regular inspections of dams and reservoirs
- Gruzesky—Attachment 3—151.100 Definitions
- Gruzesky—Attachment 4—401 KAR 4:030. Design criteria for dams and associated structures
- Gruzesky—Attachment 5—09RA JOINT RESOLUTION relating to Emergency Action Plans for high-hazard-potential dams.
- McAteer—Attachment 1—NID Ash Impoundment Locations—Map
- McAteer—Attachment 2—Coal Impoundment Program Summary—Power Point presentation submitted for the record
- National Mining Association document entitled "Coal Ash at Coal Mines—Placement, Standards, Controls and Uses" submitted for the record

