Statement of Thomas H. Adams, Executive Director, American Coal Ash Association

House Small Business Subcommittee on Rural Development, Entrepreneurship and Trade

July 22, 2010

"Is Coal Combustion Product Recycling an Endangered Industry?"

Mr. Chairman, my name is Thomas Adams. I am the Executive Director of the American Coal Ash Association (ACAA). I would like to thank you for the opportunity to speak to you and the subcommittee today on a major recycling success story that is solving serious environmental concerns while brining significant economic benefits to the US economy. Founded in 1968, the ACAA's mission is to encourage the use of coal combustion products (CCP) in ways that simultaneously benefit the environment, are technically appropriate, commercially viable, and contribute to a more sustainable society.

Beneficial use, another term for recycling, means many things to many people. To most people it means finding ways to use as much of our resources in ways that protect human health and the environment at a reasonable cost, and to make finished products that perform as well or better than products made with 100% virgin materials. By maximizing beneficial use of CCP we help preserve virgin resources for use by future generations while minimizing the effects of current economic development on the environment.

The coal combustion product family consists of materials remaining after the combustion of coal in coal fueled power plants. The primary products are fly ash, bottom ash, boiler slag, and flue gas desulfurization (FGD) gypsum. In the most recent Production and Use Survey (1) conducted by the ACAA for 2008, approximately 136 million tons of CCP were generated. CCP is the second largest waste stream in the US following only municipal solid waste. Of this 136 million tons of CCP generated, approximately 44% went into a variety of beneficial uses. This means 60 million tons of CCP was recycled in 2008 rather than being sent to disposal facilities. Since 2000 the recycling rate has risen from 30% to 44%. In its most recent Economic Assessment of the impact of coal ash on the US economy, the American Coal Council determined that the annual benefit to the US economy is in the range of $9 to $10 billion.

Today I would like to focus on some important beneficial uses of CCP. Fly ash is a fine powder-like substance with much the same consistency as Portland cement. It is collected in power plants and handled much like Portland cement. Because of its mineral constituency it is a valuable raw material in the manufacture of Portland cement for many producers. Depending on the quality and consistency of the fly ash, it is also a very valuable supplementary cementitious material (SCM) for the manufacture of concrete products, being used to replace and optimize Portland cement in concrete mixtures.

FGD gypsum is produced when flue gases are scrubbed in power plant stacks to remove sulfur dioxide (SOX) and nitrogen oxide (NOX) from emissions into the environment. Scrubbing by using lime or limestone in forced oxidation processes produces a synthetic gypsum which has purity equal to or greater than mined gypsum.

Fly ash is used as a raw material in cement manufacture due to the minerals present, mostly silicates. The use of fly ash as a raw material means that there is less mining of virgin sources to obtain those minerals silicates. Cement manufacturers balance the availability of fly ash with the needed chemical composition with the availability of material from virgin sources. The cement producers consumed 4.2 million tons of fly ash in 2008.

Fly ash is also used in concrete manufacture as a supplementary cementious material or SCM. The 2008 Production and Use Survey showed that 14 million tons of fly ash went into concrete products. The use of fly ash in concrete mixtures allows for a reduction in the quantity of Portland cement required for achieving desired results. The material is mistakenly called a cement replacement for his use. The reality is that there are performance characteristics in concrete structures that can only be achieved by the use of fly ash or other SCMs. Portland cement is important but cannot always provide the characteristics that create the high-performance and long-term durability in concrete structures. High performance can mean many things such as low permeability reducing water migration which can initiate corrosion of reinforcing steel, high compressive strength which enables structures to carry heavy loads with smaller members, or resistance to aggressive environments which attack the concrete matrix resulting in reduced service life.

Having spent many years in the ready mixed concrete industry, I can personally attest to the importance of having a valuable tool such as fly ash available to solve the performance requirements in a wide variety of construction projects. Today producers are taking the use of fly ash and other SCMs into new and expanded applications. Innovation is on a fast track.

A major benefit from the use of fly ash to optimize concrete mixtures is reduction of carbon dioxide emissions. When fly ash is used in a concrete mixture reducing the amount of Portland cement required, less CO2 is emitted as the quantity of cement manufactured is reduced. By avoiding 1 ton of cement manufacture, approximately 0.9 tons of CO2 are not emitted by the cement plant. Since 2000 over 117 million tons of carbon dioxide emissions have been avoided by the use of fly ash in concrete mixtures. There remains a large capacity in the concrete industry to increase the amount of fly ash used. One of the top environmental priorities of President Obama's administration is reduction of green house gases. The concrete industry has been doing its part to achieve reductions for some time. With the proper incentives, this reduction can be maintained and accelerated.

In 2008 8.5 million tons of FGD gypsum went into wallboard products. Approximately 35% of the wallboard manufactured in the United States is made with FGD gypsum. Wallboard manufacturers have intentionally located plants close to utilities to take advantage of logistical benefits. In some cases the material is moved by conveyor from the power plant to the wallboard plant. This process is more sustainable than the use of mined gypsum as mining, handling, and transportation impacts are virtually eliminated. This also results in CO2 reduction from elimination of mining and handling, and transportation.

There are other important markets for CCP beneficial use that I will not mention today due to time constraints. A common thread among all of these uses is the achievement of the mission of the ACAA in environmental safety, technical performance, economic viability, and contribution to a more sustainable society.

So what would endanger the continued successful beneficial use of these products?

In an effort to create regulations for the disposal of coal combustion products, the US Environmental Protection Agency (EPA) has published a proposal which contains an option which would treat CCP as a hazardous waste when destined for disposal under Subtitle C of the Resource Conservation and Recovery Act of 1976. The agency has expressed a preference for this option since it provides EPA with the authority to enforce disposal regulations. Subtitle D of RCRA, intended for non-hazardous wastes, places enforcement authority with individual states. EPA suggests that certain beneficial uses of CCP could be exempted from hazardous waste regulation. Therefore beneficial use in cement, concrete, and wallboard would continue though the same materials intended for disposal would be considered to be hazardous. We believe this "hazardous" designation would create a stigma resulting in rejection by the market place for the following reasons.

A primary concern in the market is liability exposure. Unfortunately our laws permit tort activity even when there is no evidence of damage. (The concrete industry is particularly sensitive to this having survived a siege of suits in southern California known as the "sulfate wars".) In discussions with engineers, contractors, and concrete producers over the last several months, it is clear that the use of fly ash would be severely curtailed due to fear of tort or class action suits. Many in the concrete industry do not believe EPA's assertion that the exemption would provide all the protection needed. Many do believe that a lawyer could make a simple argument to a jury that the fly ash in the disposal facility has exactly the same physical and chemical characteristics as the fly ash in the concrete in a home, hospital, daycare center, or school. Therefore if it is hazardous in the disposal facility, it must be hazardous in those structures thereby opening the door to financial claims. Even if a claim is found to be minimal, the costs of legal defense are something firms want to avoid.

The stigma of CCP as a hazardous waste also opens the possibility of negative marketing by suppliers of competitive materials. We have already seen examples in markets for shingles, bricks, and concrete blocks of advertising which attacks products containing CCP saying, "Our products do not contain hazardous waste. Do yours?" The public will always opt for materials that do not have the taint of some sort of hazardous status.

By placing CCP for disposal under hazardous waste rules, the efforts of entrepreneurs to bring new products to the market allowing the use of disposed CCP are effectively halted. Once CCP is placed in disposal it is a hazardous waste. New processes are being developed that would use large quantities of CCP some of which could come from disposal sites. The ability of these entrepreneurs to develop commercially competitive products would be crippled if they could not take advantage of the most economically feasible sources. Again, markets given a choice between products containing a hazardous component versus products with non-hazardous components will opt for the non-hazardous option.

Venture capital needed to get new businesses related to CCP beneficial use would be more difficult to obtain. Some ACAA members who have been relying on such funding report hesitation from their financial sources.

The beneficial use of coal combustion products across the country is being affected by the mere shadow of EPA hazardous waste regulations. Many of the affected entities are small businesses and entrepreneurs who are driving the effort to increase recycling. A few examples follow.

- CalStar Products opened a plant in Wisconsin to manufacture bricks and pavers from fly ash. Their process uses fly ash as a primary ingredient and consumes 85% less energy that used in producing traditional clay bricks. The Brick Industry Association has published comments that infer safety concerns because the brick is made with "hazardous wastes".
- A large manufacturer of shingles for residential roofing, Reed Minerals, a division of Harsco, had to threaten legal action against a proposed advertising campaign of a competitor. The campaign theme was "Our shingles do not contain hazardous waste. Do yours?"
- Colorado State University does research on coal combustion products. A utility that furnishes coal ash samples for this research has informed the university that no samples will be furnished should the EPA promulgate a hazardous waste rule of any kind.
- Anne Arundel County in Maryland has prohibited the use of fly ash in county construction projects pending EPA's final rule.
- The Los Angeles Unified School District has stopped allowing the use of fly ash in all LAUSD projects pending EPA's final rule.
- Calera, an emerging technology company based in California, is researching alternatives to fly ash for the manufacture of construction aggregates and cement supplements to avoid the requirements of processing a hazardous waste.

The EPA actually states in their June 21, 2010 proposal that beneficial use will increase under a Subtitle C hazardous waste regulations. The agency believes utility companies will be financially motivated to find ways to treat and handle CCP so market acceptance increases. Again, the markets have told the ACAA that any form of Subtitle C rule will stigmatize CCP and cause users to turn to other materials.

The stigma created by a hazardous waste regulation could have other unintended consequences. For example, insurance underwriters may include exclusion for projects utilizing CCP when renewing professional liability insurance for designers and general liability insurance for contractors. This would have a chilling effect on beneficial use regardless of EPA claims.

Mr. Chairman, the American Coal Ash Association Board of Directors recently passed a resolution (attached) calling for national standards for the regulation of coal ash disposal under Subtitle D of RCRA. The same resolution calls states the association opposition of any form of Subtitle C regulation.

The requirements for disposal facilities receiving coal combustion residuals are virtually identical under either of the EPA's proposed rules. Therefore it makes sense to avoid designating these materials as hazardous wastes for any reason and risk loss of a major environmental success story which contributes to our economy and helps create a more sustainable society. Subtitle C of the Resource Conservation and Recovery Act of 1976 is for truly hazardous waste. Since coal combustion residuals do not fail the characteristic tests which would qualify them to be labeled as hazardous, and none of the cited damage cases are a result of beneficial use, there is no justification for the assault on the beneficial use that is contained in the EPA proposal. Regulation of disposal under Subtitle D provides sufficient protection to human health and the environment without implying a danger that has yet to be proven.

EPA has stated publically that Subtitle D regulations are sufficient for coal combustion residual disposal (2). However a primary reason the EPA to favors Subtitle C regulations is that enforcement authority lies with the EPA under Subtitle C while enforcement authority under Subtitle D is resides with the states. The answer to resolving this concern is to amend the Resource Conservation and Recovery Act of 1976 to provide enforcement authority for the disposal of coal combustion residuals under Subtitle D to the US Environmental Protection Agency.

Respectfully,

Thomas H. Adams
Executive Director
American Coal Ash Association, Aurora, CO

(1) 2008 Coal Combustion Product Production & Use Survey Report, American Coal Ash Association
(2) Matthew Hale, Director, U.S. EPA Office of Resource Conservation and Recovery, to the Environmental Council of the States, September, 2009

Attachment: ACAA Board of Directors Resolution

Attachment

Resolution of the American Coal Ash Association

The Board of Directors of the American Coal Ash Association ("the ACAA"), a trade organization established in 1968 and devoted exclusively to encouraging beneficial uses of coal combustion products ("CCP") in ways that are beneficial to the environment, economy, and society, conducted a meeting on April 12, 2010, at which time the Directors duly adopted the following resolution.

WHEREAS, the ACAA has considered the salient features of changes to regulation of coal combustion byproducts ("CCB") under the Resource Conservation and Recovery Act ("RCRA") of 1976;

WHEREAS, ACAA members are engaged daily in the beneficial use of CCP and thousands of green jobs within the CCP industry depend upon meeting numerous standards and specifications set by ASTM International ("ASTM"), the American Concrete Institute ("ACI"), the American Association of State Highway and Transportation Officials ("AASHTO"), the U.S. Environmental Protection Agency ("EPA"), and other state and local agencies;

WHEREAS, EPA has discussed proposing to regulate CCB under RCRA under either Subtitle C - Hazardous Waste, Subtitle D - Non-hazardous waste, or a "hybrid" approach that would include some form of Subtitle C regulation;

WHEREAS, numerous states, ASTM, ACI and AASHTO have signaled in written correspondence to EPA that a Subtitle C regulatory approach, including a hybrid approach, would have negative impacts upon beneficial uses of CCP;

WHEREAS, ACAA agrees that regulating CCB under Subtitle C of RCRA, including under a hybrid approach, would have negative impacts upon beneficial uses of CCP;

WHEREAS, implementation of CCB rules under Subtitle D would occur sooner than under Subtitle C, thousands of CCP green jobs would be saved and negative impacts to the beneficial uses under Subtitle C would be avoided; and,

WHEREAS, ACAA supports regulation of CCB under Subtitle D of RCRA;

The following resolutions were offered, seconded, and adopted.

BE IT RESOLVED that the Directors of ACAA support federal regulation of CCB under Subtitle D of RCRA; and,

BE IT FURTHER RESOLVED that the Directors of ACAA oppose regulation of CCB under Subtitle C of RCRA

CERTIFICATION

I, the undersigned, Secretary, do certify that the foregoing is a true exact and correct copy of a resolution adopted at a lawfully held meeting of the trade organization on the

12th day of April 2010.

Charles Price
Signature

Charles Price
Print Name