

February 12, 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 outline 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 3and 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](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](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 Harriman, 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](mailto:sandy.gruzesky@ky.gov).

Sincerely,

E-Signed by Sandy Guzesky  
VERIFY authenticity with ApproveIt   


Sandra Guzesky, P.E., Director

Division of Water