

Statement of Jack Spadaro
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Regarding Coal Ash Dam Safety

Committee on Energy & Commerce, Subcommittee on Environment & Economy
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In February 1972 I witnessed firsthand the complete and utter destruction of seventeen (17) mining communities on Buffalo Creek in Logan County, W. Va. I was sent as part of the Commission appointed by the Governor of West Virginia to investigate the causes of the failure of a coal waste dam at the headwaters of Buffalo Creek on February 26, 1972. The dam failure resulted in the release of a massive wall of toxic coal mine waste water that killed one hundred twenty-five (125) men, women and children who were residents of the Buffalo Creek Valley. More than fifteen hundred (1500) homes were destroyed or severely damaged and four thousand (4000) people were left homeless. The Governor's Commission of Inquiry concluded:

"1. The lack of definitive, clear-cut, and enforceable laws with regard to the safety of mine-refuse banks and impounding structures, both at the Federal and State levels, was a major shortcoming that contributed to the disaster."

I have been involved in the evaluation and regulation of coal waste dams since 1972 and I have written federal and state regulations governing the structural integrity of such dams. The regulations I wrote in 1978 for the federal Office of Surface Mining (OSM) Reclamation and Enforcement are still in effect. The regulations under 30 CFR 816.49, 816.81, 816.83, and 816.84 have in large part been complied with when adequately enforced by state and federal regulating authorities. The exceptions were the failures of the Martin County Coal Waste Dam in Martin County, KY, on October 11, 2000 and the failure of the Robinson Run Coal Waste Dam operated by Consolidation Coal Company in Harrison County, W.Va. in December 2012. I will speak more about these coal waste dam failures in this discussion. Comparable regulations regarding coal waste dams are also enforced by the federal Mine Safety and Health Administration (MSHA) under **30 CFR 77.214 through 77.216**. Both the OSM and MSHA regulations require at a minimum that the coal waste embankments and dams be constructed in compacted layers and meet stringent geotechnical engineering requirements ensuring a long time minimum factor of safety of 1.5. The OSM and MSHA regulations further require that the plans for the construction and maintenance of coal waste dams be approved by the MSHA District Manager and Technical Support Division and, in the case of OSM, by the designated regulatory authority. Safety examinations of the coal waste dams by a qualified dam safety expert are required on a weekly basis under the MSHA rules. The OSM and MSHA regulations require specific recognized engineering standards be applied to the planning, construction and maintenance of coal refuse dams and do not merely leave the design and maintenance criteria to an independent engineer as has been proposed in recent discussion papers. There is an inherent and profoundly dangerous risk in leaving the entire structural integrity question up to an engineer employed by the owner or a contract engineer engaged by the owner of the coal ash containment dam. This risk was clearly evidenced in October 2000 in

Martin County Kentucky when a coal slurry impoundment failed unleashing three hundred million (300,000,000) gallons of toxic coal mine preparation plant waste into the Tug Fork and Big Sandy Rivers killing all life forms for one hundred (100) miles downstream. The coal slurry impoundment had been certified as safe on an annual basis by a so called "independent" certified professional engineer who was employed by the mining company under contract for at least six (6) years prior to the failure. The same "independent" engineering firm had regularly inspected the Martin County Coal slurry impoundment on a quarterly basis and certified that the dam was safe. Later investigation by MSHA engineers found that the mining company had lied in its application for approval regarding the foundation conditions at the bottom of coal slurry reservoir. A similar coal waste dam failure occurred in December 2012 at Robinson Run in Harrison County, W.Va. The coal slurry reservoir was being utilized as a disposal area for coal ash generated by a nearby power plant. The exact type of structure we are discussing today. The dam failed while the engineer who had repeatedly certified that the dam was safe was standing on the crest of the dam. A bulldozer operator assisting the engineer was drawn into the coal ash reservoir with his dozer and drowned. It took over a week to recover the man's body. This is only one tragic example of what will assuredly happen if coal ash dams are not rigorously regulated by independent government agencies with adequate authority to monitor engineering and construction of coal ash dams.

I am certain that the proposed legislation in its present form, without specific requirements for review of design, stringent geotechnical and hydrological engineering requirements, and vigorous enforcement by a federal regulatory agency will result in a catastrophic failure of a coal ash dam containment structure that will result in extensive loss of life and severe environmental damage that will be irreversible. There are thousands of such structures in the United States at this time and the failure of one or more of these dams is assured unless strict engineering standards are imposed. These standards are not costly and in fact can result in economic savings to the industry by reducing liability and streamlining construction and maintenance costs. This has been found true in the mining industry since 1977. If we do not ensure long term structural integrity, the result has already been observed in the massive failure in Kingston, Tennessee. The EPA completed a study of the structural integrity of over 400 coal ash dams, hundreds of which could cause loss of life or serious damage if a failure occurs. The EPA found that approximately twenty five percent (25%) were in "poor" condition. The EPA has sent letters to the owners of the dams requesting that the deficiencies be remedied, but there is no law or regulation that requires the owners to do so. I find this appalling forty years after the Buffalo Creek coal refuse dam failure. The people of Buffalo Creek warned their governor and at least six federal and state agencies that an unsafe dam existed at the headwaters of the stream that flowed by their homes. They were ignored. Surely, those of you who now have knowledge that these dangers exist in the year 2013 will not do the same.

I hope never again to see the result of inadequate and irresponsible regulation of a coal waste retaining structure as I did in 1972 on Buffalo Creek. I shall never forget the bodies wrapped in black toxic sludge or the faces and voices of the survivors who had lost all that was precious to them, forever.

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